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THE ALPINE JOURNAL

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A RECORD OF MOUNTAIN ADVENTURE

AND

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BY MEMBERS OF THE ALPINE CLUB

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THE

ALPINE JOURNAL.

MAY 1930.

(No. 240.)

The Scheidegg Wetterhorn by the N.W. Face.

By N. S. FINZI.

(Read before the Alpine Club, December 9, 1929.)

MOST of us know and have admired the magnificent precipice of the Wetterhorn, one of the glories of Grindelwald. How many of us have cherished the desire to climb it? How many have actually investigated it?

I do not know for certain when the idea of climbing this wall first came to me, but I believe it was in 1911. The next time that I was in Grindelwald, in 1919, I know that vague ideas about it began to take shape and I determined that on becoming a more practised climber I would have a look at it.

The peak crowning the precipice has been variously known as the 'Grindelwald Dru,' the Scheidegg Wetterhorn, or simply as 'Point 3414 m.' The name Scheidegg Wetterhorn was given to it by Coolidge in the *Climbers' Guide*, Bernese Oberland, Vol. II, in preference to the earlier name, and appears on the Siegfried map. It is a rather cumbrous name, but 'Scheideggh-horn' would hardly indicate that it is part of the Wetterhorn. Anyhow, the face must be obviously the 'Scheideggwand.' The peak was first climbed by Mr. G. A. Hasler with Christian Jossi, senr., and Peter Bernet on May 13, 1901, by way of the Krinnefirn and the Hühnergutz Glacier, after several unsuccessful attempts. Hasler describes a very difficult ascent on to the final ridge by means of a pole secured to the rock by iron nails and ropes ('A.J.' **20**, 466–468). We did not think

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that, at the present time, this route would present any great difficulty, but it has probably changed considerably since 1901, and conditions are so different in May. In 1919 I saw the largest rock avalanche I have ever seen come down this side of the mountain, and this may have altered the whole configuration.

In 1922 I first had Franz Josef Biner as guide and found that he was keen on doing new climbs. In the following year, 1923, my time with him was divided into two parts. In the first we climbed in the Dolomites and then went to the Bregaglia, making the first ascent of the Ago del Torrone[1] ('A.J.' **36**, 60). After this we separated for about a fortnight: Franz to go to the Dauphiné with another client, and I to join W. M. Roberts and Culverwell for some guideless climbing. We arranged to rejoin in the Bernese Oberland and study the face of the Wetterhorn.

THE 1923 ATTEMPT.—I got to the Oberland first and started to take photographs and spy out the land with field-glasses and telescope. I was staying at Wengen and so I first of all had a look at it from the Männlichen. It looks fine from there, but does not make much of a picture when photographed. However, I discovered that the sun only begins to shine on the wall at all at about 3.30 P.M. and does not get well on to it until much later. When the sun strikes the wall it shows up a large tower with a double point. I could not make out whether it was detached from the wall or whether there were one or two towers. It proved eventually to be *one* tower distinct from the wall. It seemed that if we could attain the foot of this tower we might find a chimney that would help us.

The next investigations were from the ridge running N.W. above the Grosse Scheidegg and the lower slopes of the Schwarzhorn. We could see that there were a number of terraces, but whether we could get from one to another or could circumvent the final absolutely vertical part was not made manifest by telescope. Franz was with me on one of these investigations and formed the opinion that one could only tell if it would go when, as he expressed it, 'one had one's nose on it.' We mountaineers are often accused of hanging on by our eyebrows, or, if these fail, by our waistcoat buttons; the use of the nose for this purpose is more unusual. Some of us might find it a more suitable weapon than others. Anyhow

[1] Or *Ago di Cleopatra.*

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we decided to have a look at the climb when the weather permitted. That year, 1923, the face was quite black, with a few patches of old snow here and there. A bad break in the weather, however, had eventually brought new snow on to it and we had to wait. When the weather at last permitted, we went up the N. face of the Jungfrau and came back by train.

The next day, about August 30, Franz Josef Biner, Roman Lagger, both of St. Niklaus, and myself went up to the Grosse Scheidegg to sleep. We started the next morning at about 4.30 with *Kletterschuhe* and food, but practically no other luggage. There exists a ridge leading to the face from the Grosse Scheidegg; the highest point of this is known as the Schlafhubel, 2038 m., but one keeps a little below it on the W. side. It takes about 35 minutes to attain the rock face, and here we put on *Kletterschuhe*. I wore a pair of boots with very deeply grooved crêpe-rubber soles, which Mr. Somervell very kindly had made specially for me. The climb started with a smooth chimney, not at all easy to an average climber such as myself, and this leads to a ledge. We followed this to the left, very slightly upwards to a large patch of old snow, which was there that year. From here there are some quite difficult chimneys on to the next ledge. Up to about this point there were marks of nailed boots, whether of chamois hunters, as the guides suggested, or of other climbers who had tried this route, I do not know. At any rate the nail marks were still there in 1929, so that they do not wear out readily, or else had been remade.

From this point the terraces slope outwards at a very uncomfortable angle, and any attempt to climb them in nailed boots is suicidal foolishness. Even with *Kletterschuhe*, no belay is possible in most places, so that if one of the party slips the others would probably fail to hold him. As all the ledges slope outwards, a fall would doubtless involve the complete destruction of the party.

The rock of the terraces [2] is unlike anything I have seen elsewhere. It is extremely hard limestone, quite smooth, almost polished, and with a slight bloom on it. It has, of course, here and there pebbles on it and occasional patches of gravelly scree. It is quite unlike the Dolomite rock in that it is so much smoother and has not the numerous small holds that

[2] Herr Liniger describes these terraces as more nearly resembling steeply inclined slabs than ledges.—*Editor.*

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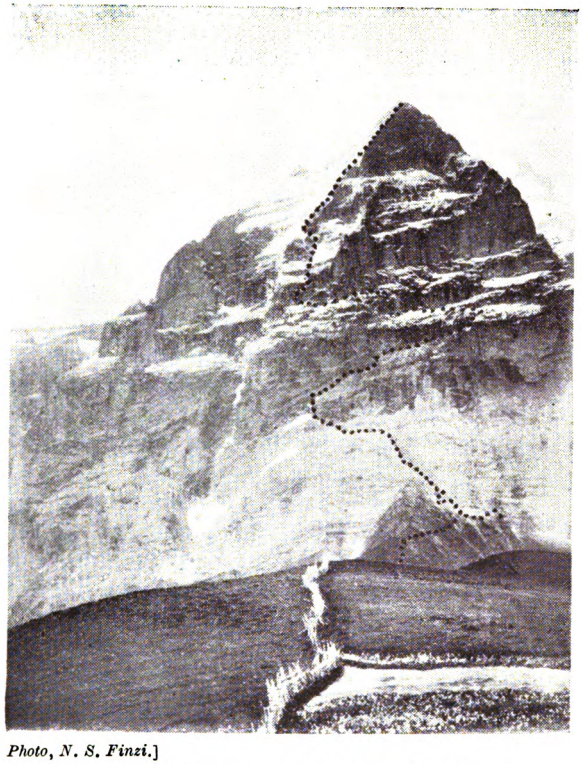
the latter presents. It is also unlike the neighbouring Engelhörner, though the dissimilarity is not so great, while it is not broken up and brittle like the ordinary way up the Eiger. The chimneys, on the other hand, present the usual amenities



Photo, N. S. Finzi.]

SCHEIDEGG WETTERHORN, SHOWING 1929 ROUTE.

to cragsmen and are climbed either by violence or cunning—sometimes by both.

We climbed these terraces by a series of zigzags, interspersed by chimneys, but I have forgotten the details. At length we arrived at a flat ledge under a sheer wall of rock, which proved to be the great tower jutting out from the face. This is the only horizontal place in the whole of the terraces and is about 2000 ft. below the summit and 9500 ft. above sea-level. The weather was causing the barometer to fall, consequently the latter gave a slightly higher reading.

We did not stop here, but pressed on with rapidly worsening

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weather, making our way along a terrace to the right. A few minutes later it became obvious that it was going to rain, and I insisted on a return: another half-hour would have allowed us to look round the corner if we could have got there, but, realizing the danger of these rocks becoming wet, I was quite firm about turning back. However, the guides demanded a short meal at the level place previously referred to. During this interval it began to drizzle and the whistling of a couple of pebbles from above, the only stones we heard on either this or the subsequent ascent, stirred my companions to activity. The descent was made rapidly in gradually increasing rain. By the time of our arrival at the final chimney the rocks were quite wet and the last man had to double-rope down by means of a piton driven into the rock. We returned to Grindelwald wet through.

1924.—This year I came to the Schwarzwaldalp, and, before Franz had joined me, continued my photographic and telescopic investigations. This was not difficult as the weather was atrocious, the spell of rain ceasing for one day only, but with a fall of snow to below the Grosse Scheidegg. The snow became plastered on to even the vertical faces of the rock. However, a few hours later the snow had melted enough to give me the photographs from which we were able to plan out the ascent. Subsequent study of these indicated that, from the ledge under the tower, which I shall subsequently allude to as the 'breakfast place,' we ought probably to have gone to the left (N.E.) instead of to the right (S.W.). There was one place where it seemed doubtful if we could get up—just above the extreme left of the big terrace below the tower. If this place were surmounted, we both felt certain that the remainder was possible.

When Franz arrived we started to get into training in the Engelhörner, but even these became snowed up, so we moved on to other parts. The wall of the Wetterhorn was covered with snow, and, as it only gets the late afternoon sun, takes naturally a long time to become clear.

That winter we were at Grindelwald for a few days, and I took more photographs.

1925.—We came to Rosenlaui and I had some training-climbs in the Engelhörner. Our wall, however, had much snow on it and frequent bad weather drove us away.

1926.—We were in the Chamonix district. When the weather turned fine we came over to Rosenlaui again. There was so much old snow on the face, however, that there was

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no chance of its melting off during my holidays, which finished early that year.

1927.—The weather again was very bad, and my main recollection of that year was of going up to many huts and coming back, because the various climbs were impossible. However, we eventually had a fine week, so I arranged to join Robert Underhill at Grindelwald and arrived there on the evening of September 6. We started for the Grosse Scheidegg on September 7, but only got half-way up because of rain. After that it rained for several days continually, and as Underhill had to go back to America, and the face had become obviously impossible for some weeks, he left at once. When at last there was a break in the wet weather, Franz, Roman Lagger and I went up to the Gleckstein hut to have a look at Hasler's route.

The weather resumed its unpleasant methods soon after we arrived at the hut, and though we got up hourly from 3 A.M. onwards we were unable to start until 8.30. We crossed the Krinnefirn, ascended a rock wall to the S.W. ridge of the Wetterhorn, and went some way along the top of this before making a slight descent to the Hühnergutz Glacier. This was neither steep nor much crevassed, so we easily reached the next rock wall and ascended this without particular difficulty to a point quite close to the N.W. ridge which joins the main summit of the Wetterhorn (the Hasli Jungfrau) to the Scheidegg Wetterhorn. This ridge would have taken a long time to traverse as the clefts between the gendarmes are very deep.[3]

The obvious route was to descend, cross a gully and mount the next ridge constituting the skyline of our peak and its own particular W. ridge or spur. However, there was no time to do this without risk of sleeping out, so we returned. This expedition, although we did not achieve the peak, was very useful, as it showed us that the descent to the Gleckstein would not present any great difficulties.

1928.—This year our wall was in the most wonderful condition and the weather was very fine. Franz and I, however, had gone to Norway, there to experience a bit of the worst summer they had had for 100 years—so they said. We greatly feared that our climb would be accomplished as there were various

[3] This ridge, or a great part of it, appears to have been traversed by Herren Amstutz and Richardet in September 1919. The alternative route up the Wetterhorn from the Hühnergutz Glacier lies more on the very steep snow or ice of the W. face; the N.W. arête is taken higher up, sometimes *close* to the summit.—*Editor.*

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Photo, Brügger, A. G.

SCHEIDEGG WETTERHORN.
From the N.

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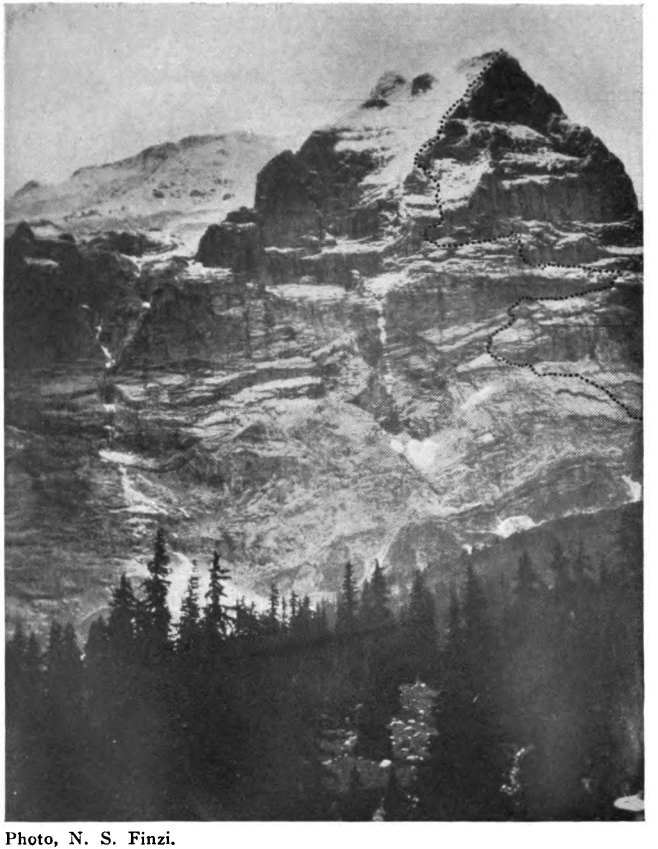
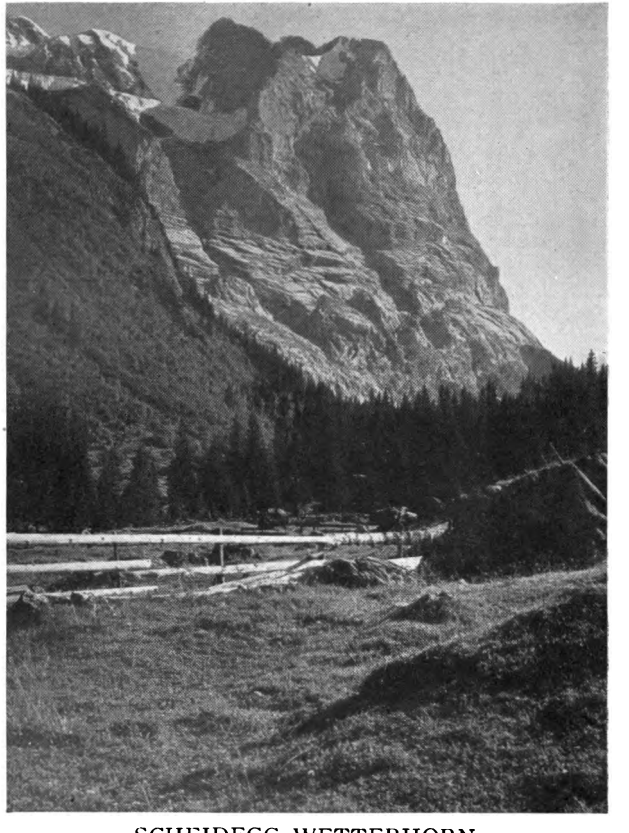


Photo, N. S. Finzi.

The 1929 Route from above the Gr. Scheidegg.



SCHEIDEGG WETTERHORN.
From above ROSENLAUI.

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parties whom we suspected of having an eye on it. When I arrived back I was told that it had been done and was therefore relieved when I heard that it was the S.W. arête of the Wetterhorn that Uramatsu had accomplished, and when Farrar, who knew of my project, sent me the outline sketch of Herren Michel, Brugger, and Töni's route, the original photograph showed more clearly than its reproduction in the JOURNAL that this expedition [4] never touched my proposed route at any point. There is in fact a deep couloir between the N.W. and the N. faces with a hanging glacier in its upper part.

1929.—We decided that the Dolomites were the best ground in which to get into training quickly, especially in the use of *Kletterschuhe*. Accordingly we started there. After 11 days, with more or less bad weather, a sudden change came on August 22, which we celebrated by an afternoon climb. Subsequently, apart from the afternoon clouds and thunderstorms, so common in the Dolomites, we had very fine weather and made good use of it. Among other excellent climbs we again did the S. wall of the Marmolata, this time more or less by the normal route: I consider this expedition to be the finest rock-climb in my experience.

We then went to Sulden, inquired for the best and most difficult climb in the district and were advised to do the *Marltgrat*, or N.E. arête of the Ortler. I mention this ridge only to warn my fellow-members against it. It is an expedition that is not technically difficult but is intensely dangerous on account of loose rocks, some of enormous size. A pebble of about the size of a football hit me on the thigh and it was only with great difficulty that I could continue. Had it been possible we should have retreated long before. It is an *absolutely* unjustifiable climb.[5]

On September 6 we left Sulden, and by means of a car to Landeck were enabled to reach Thalwil that night and Rosenlaui the following afternoon. Franz wished to go to Rosenlaui,

---

[4] This expedition stopped short at the Schwarzwaldfirn and was not continued, owing to the lateness of the hour, either towards the Wetterhorn or Scheidegg Wetterhorn, the former of which had already been attained from the surface of the Schwarzwaldfirn, *A.J.* **41**, 210-11.—*Editor.*

[5] First ascent, August 22, 1889, Herren R. H. Schmitt, L. Friedmann, O. Fischer, and E. Matasek. We concur entirely with Dr. Finzi's views. The N.E. buttress of the 'Marlt' arête, the so-called *Rothböckgrat*, first ascended by the late Franz Pinggera's party on June 30, 1904, is even more dangerous.—*Editor.*

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partly because he disliked the publicity of Grindelwald, where several of the guides had surmised what we were trying for, and partly because of the bad weather we had had there in the past.

My thigh was still very painful, so we spent the late afternoon of September 8 looking at the face with a telescope from above the Schwarzwaldalp, postponing the start until Monday, September 9. We wired to Josef Knubel to join us on that date. He arrived about 6.30 P.M. and we went up to the Grosse Scheidegg. That night Knubel threw out the suggestion that it might be possible to do the whole thing in *Kletterschuhe*, and on the following morning further elaborated this idea. The Hühnergutz Glacier, according to him, was practically level, and he was quite sure we could cross this, as also the Krinnefirn, in *Kletterschuhe*. At first a return by the route of ascent had been mooted, but later this was dropped and the scheme appeared in all its nakedness. I confess I disliked the idea. I knew that what appears level to a guide's feet, seems to me like the Cresta Run. However, if the others, accustomed to carry weights on their backs, were leaving their nailed boots behind, I was not taking mine either, and, my luggage being thus reduced to less than a pound, apart from food and drink, took no rucksack at all. We decided not to start until daylight and to use the lanterns, if necessary, at the other end. I did not myself consider that a bivouac was entirely impossible, but had less anxiety about the ascent than the descent on the other side.

The party consisted of Josef Knubel, Franz Josef Biner, and myself. We started from the hotel at 5.06 and proceeded along the ridge towards the Schlafhubel, skirting under this to the right and reaching the rocks in 35 minutes. From this point Franz took the lead on account of his previous knowledge of the route, continuing as leader throughout the whole climb.

The ascent, beginning with a chimney at first sloping gently, becomes steeper and steeper; it leads to a terrace, most of which slopes outwards. We followed this to the left for some distance. The patch of snow which had assisted us in 1923 was no longer there, consequently the chimneys to the next ledge were quite difficult. The terraces from this point had quite a considerable slope on them, and Knubel, not having worn *Kletterschuhe* for some time, was the least comfortable of the three of us. To me they seemed easier than my recollections of 1923 had led me to expect, but whether this was

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because I was in better training or because we took a somewhat different route, I am unable to say. This is the part which makes the climb possible on certain occasions and in strictly settled weather only. When wet, these terraces become much too slippery and so dangerous that retreat or advance may become impossible. One cannot use nailed boots on them, and our experience of 1923 showed us how awkward they may be even before being thoroughly drenched. Not only must the weather be fine, but the face must be practically

Photo, E. Gyger.]

SCHEIDEGG WETTERHORN AND 1929 ROUTE FROM WALDSPITZE.

free from snow. With wet weather or melting snow comes also the danger of falling stones, and, though these would only be small, the face is so steep that they must come down at a great pace. On a fine day there is no danger from this source —once the snow has gone. The terraces slope so much that, with no possibility of any belay, the fall of one of the party would entail the death of the rest.

The terraces now lead to the right, in the main, but with a little zigzagging. Mostly these slope gently upwards, but occasionally there is a slight downwards tendency. Eventually one doubles back, and a terrace leading to a chimney which, to me, was quite difficult, landed us on the ' breakfast place,' the only level spot in the whole of this part of the mountain. This

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was the point reached in 1923 and, according to barometric reading, is some 9500 ft. high. We reached it at 9.40.

The guides went off for a little exploration on their own while I unpacked the sacks. On their return they reported the difficult portion as partly overhanging and probably inaccessible. However, I was not perturbed, because I did not believe that Franz had placed sufficient reliance on the telescope to map out the route as accurately with it as I had. He trusted more to his nose! Accordingly my appetite was undisturbed from this cause, but it *was* by the cold wind just hitting our ledge. In all we spent about 35 minutes here, leaving about 10.15.

I inspected the place investigated by the guides, but as it was obviously not the one I had intended to try we went on farther, *descending* slightly until the face had a somewhat more northerly aspect—round a slight corner, in fact. Here we found two chimneys, which I had seen from below and which I recognized for two reasons: first, because we had observed that it was after 5 o'clock before the sun could reach them, and therefore they must face more north than the rest of the wall; and secondly, because the right-hand chimney contained some scooped-out patches of red rock. We took this chimney and it led easily to a small ledge.

Here occurs the doubtful point of the climb.

Up to this point I was certain we should arrive, but the next step I knew would be the crucial test—if we passed it, we had won our peak. The chimney leads vertically upwards for about 65 ft. and to me is very difficult. At its top there is a small ledge with room for one person; thence the only way that progress is possible is by an oblique traverse to the right. Standing on this ledge, Franz drove a piton [6] with great difficulty into the very hard rock and into this we inserted a *Karabiner*, which we had brought from the Dolomites. This is a slotted oval of steel with a spring catch, closing the said slot like the catch on a watch-chain. The slot enables the rope to be slipped through the *Karabiner* without unroping. The last man

[6] This was the *only* 'artificial aid' used apart from the rope and was employed only as a safety device and not as an essential to the ascent.—*N. S. F.* [And as *such* was thoroughly justifiable. Our remarks—*A.J.* 41, 406—referred to the objectionable modern method as practised chiefly in the Eastern Alps, of driving in a series of pitons to be used as foot and hand holds in scaling overhangs otherwise impossible of access. See 'Triglav' articles in the present number.—*Editor.*]

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detaches the *Karabiner* from both rope and piton and slips it into his pocket. The traverse was extremely exposed, but otherwise not very difficult, which is fortunate, as, if one were to come off, the pendulum swing thus caused would be very disturbing! In the chimney the climber is safe, although he probably could not obtain much help if unable to climb it himself. The traverse is about 55 ft. in length and is at a diagonal angle of 45° across an absolutely vertical face. It ends in a most remarkable and large platform, in the middle of which is a stone pillar placed there obviously for a belay. Evidently the mountain was intended to be climbed by this way. Owing to the fact that he did not use the spare rope, Knubel, as second man, had to unrope twice on this step, once before the piton and once on the traverse; otherwise the rope would not have come back to me. The step is in all 120 ft. long and it would be best to use 120 ft. of rope for each person, but the spare rope or even a piece of thin cord can be used to connect with the last man so that he can draw the rope back. A *Karabiner* [7] is almost a necessity.

From here onwards the climbing, while not easy, is not exceptionally difficult. The character of the rock changes completely, gradually becoming looser, especially after the ridge is attained, but there are no more sloping terraces and the climb is much more 'ordinary.' The route is more or less obvious to the ridge whence it follows practically the crest of the arête. On reaching this spot at about 12.45 we stopped for a light lunch. We all felt that the top was a certainty, and only I expressed any anxiety as to the descent. The height at this point was about 10,400 ft. and we thought an hour would take us to the summit. However, the rocks were still by no means easy and were now *very* loose, so that we had to go carefully, only reaching the summit at 3.10. As we arrived a glorious view burst suddenly upon us, only to be obscured a few seconds later by clouds. We found a bottle on the top with a little pulped paper in it, presumably the cards of the first ascent. We added a card to the pulp and did our best to seal up the bottle. We did not find Hasler's pole [8] which he had erected there, but there was a cairn.

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[7] *Karabiners*, see illustration *A.J.* **37**, 282, may be obtained at Sporthaus Kühlken, Augsburg, Bavaria; price about 1 mark. Herr Walther Flaig kindly supplied one, enabling Dr. Finzi to illustrate its use during the reading of his paper.—*Editor.*

[8] *A.J.* **38**, illustration facing p. 457.

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We now turned our minds to the descent. From the ridge leading up to the summit of the Wetterhorn, two spurs run to the S.W., one leading directly up to the Scheidegg Wetterhorn, and the other, parallel to this, to a point some distance along the main ridge. We knew from our climb of 1927 that we had to cross this second spur, so we tried to reach it by going along the main (N.W.) ridge, leaving the summit at 3.35. However, after crossing several gendarmes we came to a very deep cleft and decided that it would be better to return, descend the sky-line ridge a little, and then cross the couloir between the two. We returned to the summit and left it at exactly 4 o'clock. We descended the sky-line ridge without difficulty for some little way, and as soon as we came to a convenient spot, double-roped down, noticing, however, that the step was possible in the ascent if desired. At this moment it started to snow, but fortunately only continued for about half an hour. We crossed the gully, mounted the second spur, descended some distance along this, and attained the Hühnergutz Glacier by approximately the same route as in 1927.

It will be remembered that we only had *Kletterschuhe* and no nailed boots or crampons, so that I now began to find great difficulty in keeping my feet on the ' level ' glacier névé. The guides, however, had no difficulty at all, so that, to get on more quickly, Franz supported me until we reached the point where we had to cut steps to get over a small bergschrund in order to attain the rock ridge over the Krinnefirn. In these steps I found that the *Kletterschuhe* were quite comfortable, and I felt perfectly safe. We then descended this ridge and the Krinnefirn by the route ordinarily used to attain the W. face of the Wetterhorn. It was late in the year and darkness came on just as we got off the glacier. We proceeded for a long time in the gloom, as Franz had an idea that it was easier to find the way out without the lantern. After he had lost it several times and I had nearly broken my leg, he was persuaded that most human eyes see better in the light, even if it is only the dim glimmer of a lantern. We got on better after this, and arriving at the Gleckstein hut a little before 9 P.M., found that the guardian had left that morning. There was an American with a Grindelwald guide there and they very kindly gave us some tea and boiled it for us. We went to bed happy and returned to Rosenlaui by the Grosse Scheidegg on the following morning.

The ascent of the Scheidegg Wetterhorn is a fine climb, well

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worth doing when the conditions are suitable, and I am sure it will be repeated soon. That it should be in an impossible condition for four years in succession is, I am sure, quite exceptional.

The essential things are :

(1) That the face must be dry and practically snow-free.
(2) That the weather must be fine and settled.
(3) That the whole party must be experienced, in good training and accustomed to use *Kletterschuhe* or rubber-soled boots.
(4) The equipment must include 120 ft. of rope for each person, or else 120 ft. of rope and a similar amount of cord to draw the rope back with. A *Karabiner* should also be taken. The only piton required is already there.

I have been asked as to its difficulty. I should class it as ' severe,' but *not* exceptionally so. It is, for instance, not as difficult as the S. face of the Marmolata, although longer and even more exposed. I should class it with the S. face of the Tofana di Razes in order of difficulty, but the latter is shorter.

The climbing up to the ' breakfast place ' is quite unique and I have never come across anything like it.

In conclusion I must say a word for the guides. Franz Biner led the whole ascent, very ably backed by his friend, Josef Knubel, and he led it in magnificent style, without error, and never did we have to try any place twice or go back and take another route. Knubel's experience also saved us from carrying our nailed boots, and what this would have meant I know from having had to carry Franz's sack with hammer, many pitons, and spare rope for a short time. Franz Josef Biner is, as stated in the last number of the JOURNAL, the son of Josef Marie Biener [*sic*]. The Editor refers to the latter as ' one of the finest guides who ever put on a rope.' His son deserves the same appellation.

The interesting thing about this expedition is that it went, down to the smallest detail, exactly as we had planned it out by photograph and telescope.

TIMES.—Gr. Scheidegg 05.06, Scheideggwand 05.42, ' Breakfast place ' 09.40–10.15, Ridge 12.45–13.05, Summit 15.10, Descent commenced 16.00, Gleckstein about 21.00.

[In the discussion following the reading of this paper, Mr. C. W. Nettleton mentioned an attempt by himself and

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stated that he believed the late Mr. J. Oakley Maund had made an attempt in the 'eighties. At our request, Mr. Nettleton writes as follows:

'. . . The result of my search in Alpine literature has proved entirely disappointing. In your editorial note following Dr. Finzi's account of his expedition, 'A.J.' **41,** 406, you say "the N.W. face has been attempted on countless previous occasions." I have entirely failed to find any record of any one of these attempts, and the only one I had previously heard of was from the member of the Boss family who was in charge of the Bear Hôtel in July 1899, and who told me that Messrs. Oakley Maund and H. Seymour Hoare had tried this face in the early 'eighties . . . I can find no account anywhere by Oakley Maund of any attempt on this N.W. face.

'At our recent A.C. meeting, the President asked me why I had not contributed a paragraph to the JOURNAL 30 years ago, and I could only reply that surely it was not usual to record failures; and I am now the more interested to find that, apparently, none of the "countless previous attempts" have been recorded, even in articles recording successful accomplishments, where details of one or two interesting failures could easily have been worked in.

'. . . Coming to our attempt, if such it can be called: in 1893 I spent some days at Rosenlaui and at the little inn on the Grosse Scheidegg where I fell in with Heinrich Zurfluh,[9] with whom we had some scrambles in one of which we went a little way up this N.W. face.

'In July, 1899 I was at Grindelwald, and had the services of Christian Jossi and Bernet. I mentioned the N.W. face and Jossi spoke to a chamois hunter friend of his about it. As a result we went up to the inn on the pass one evening soon after, and in view of what I found next day, and now know in greater detail, it is clear we attempted the impossible. I do think, however, judging by the photograph ['A.J.' **41,** 405], that we reached about the same spot as Dr. Finzi did in 1923, where, as he agrees with me, "the frowning cliffs forbade further advance." All that my wife clearly remembers of the day is that we arrived back at Grindelwald long after dark. . . .

'There was a small sequel next year to Jossi's chamois hunter friend. My wife and I were at the Riffelalp in 1900, and the Hon. Gerald Fitzgerald and Sir Maurice Holzmann

[9] 'An exceptionally brilliant rock climber,' vide *Mummery*, p. 276.—*Editor.*

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lent us Fritz Boss for a week and he took us up the Matterhorn, Dufourspitze (S. face), etc.

'Boss turned out to be the "chamois hunter," and in our chat on the N.W. face I remember his saying "you kept to the right, where I said left." Boss told me of his extensive knowledge of the Wetterhorn and it was with great regret that I read, 'A.J.' **20,** 535, of his untimely end on this, his favourite mountain.

'. . . For myself I thank you for giving me an enforced day with Alpine books which I love, and which have brought back a crowd of forgotten incidents to my memory. . . .'

Largely through the courtesy of Dr. Lauper, we have been able to trace several attempts, nearly all of which failed at a comparatively low altitude owing to weather conditions. These include expeditions by Herr Miescher, also attempts by Herren von Schumacher and Chervet in 1924. According to Herr Peter Lendorff, the well-known Meiringen guide, Melchior Kohler, tried it with a party some years ago. Herren M. Liniger and Neumeyer made two attempts, in July 1919 and July 1920 respectively, reaching (in 1919) a point approximately about half-way along the long traverse to the right, W. ('A.J.' **41,** illustration p. 405), and (in 1920) a point near to where the 1929 party commenced their *descent,* prior to the red chimney or 'doubtful point.' On both these occasions extremely bad weather and snow forbade further progress.

In a further letter Dr. Lauper informs us of another attempt made on August 18, 1917, by Dr. G. Leuch (President of the S.A.C., 1923–25), Dr. R. Wyss (now with the Vissers in the Himalaya), and Herr H. Leuthold (now in California). Dr. Lauper is unable to state how far the party went, but '. . . they intended to attempt the route taken by Gottlieb Michel [in the lower part, 'A.J.' **41,** 210–11], but were thence to attempt the attainment of the crest [N.W. arête] taken by Dr. Finzi. Herr Leuthold, a very fine climber in his time, specialized in the Engelhörner, while Herren Leuch and Wyss are, with Dr. Scabell, probably the best mountaineers the A.A.C. Berne ever had among its members.'

It would be of great interest to hear of any other attempts—if only to justify our rather rash statement!—*Editor.*]

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Aletschhorn and Furggengrat.

By E. R. BLANCHET.

(*Translated.*)

I. Aletschhorn (S.E. Face).

THE S.E. face of the Aletschhorn towers above the Mittel Aletsch Glacier and is exactly opposite the Eggishorn at a distance of 8½ kilometres.

Except for a short step somewhere about the point marked 2567 m., and to which corresponds a zone of crevasses, the glacier rises at a gentle angle from its junction with the Gross Aletsch Glacier towards a height of some 2700 m. Higher up the glacier steepens rapidly and becomes a true labyrinth of crevasses and séracs, the direct traverse of which—always long—becomes in certain years most arduous, or even impossible.

With the exception of a diagonal and steep ledge of snow, on a level approximately with the beginning of the S.E. arête, and of a bastion rather lower down and more to the E., this face of the Aletschhorn is entirely rocky. Nevertheless, on nearly all the photographs the face appears as speckled or striated with patches of white—a valuable proof of the special weather conditions prevailing on this mountain. Gullies and ribs seam the precipitous face, approximately 2700 ft. in height. Several snowy tongues projecting from the base of these gullies creep upwards into the wall.

From the Mittel Aletschjoch the left-hand, or S.E., arête appears as very steep. Its first step abuts against a sharp needle, Point 3966 m. of the Siegfried map. Thence the arête leaps upwards uninterruptedly towards the summit. This arête was climbed in 1898 by Messrs. Wilson, Wicks, Bradby and Kesteven.[1]

The other, or right-hand, side of the face is quite different; it is shapeless, and instead of a rocky wall we have a tremendous icy cliff, generally smothered in snow and from which two *rognons*—to quote a Chamonix expression—emerge. Both the height and angle of this face diminish as we look E. Farther still lies the easy Aletschjoch. It is by that col that parties

[1] *A.J.* **19**, 251; **41**, 404.

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Photo, Gaberell.

ALETSCHHORN.
From the S. (Showing 1929 route.)

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proceeding from the Hôtel Jungfrau, at the eastern base of the Eggishorn, start for the ascent of the Aletschhorn, a climb rarely affected in spite of its ease and beauty. It is, however, very long, as the 9½ kilometres of horizontal distance are increased by two obligatory deviations from the straight line. I have never understood why the S.A.C. abandoned its intention of building a Club hut near the Point 2651 m.

It was certainly not with the intention of discovering a shorter or easier route that I launched myself at the S.E. face. I was sure that this ' short cut ' would prove more fatiguing, as well as more dangerous and time-exacting.

My first attempt on this face was stopped at the junction of the Gross Aletsch and Mittel Aletsch Glaciers. The two following were nipped in the bud—by my bedside! In my fourth attempt I got very far in distance, if not in height. After a prolonged struggle with séracs and crevasses, we had to turn back at a horizontal distance of 500 m. from the base of the rocks.

From all these wasted attempts we gathered that :

(1) To traverse the Gross Aletsch Glacier from the Märjelen Lake to its junction with the Mittel Aletsch it is necessary to describe a huge curve above.

(2) In the night, the moraine blocking the junction is simply infernal, and we accordingly erected cairns along its vile surface.

(3) It is obligatory to mount the centre of the Mittel Aletsch Glacier for its lower 3½ kilometres.

(4) In 1929, when proceeding to the face from the contour 2700 m., it was necessary to bear round in a long détour to the E.

On August 25 the weather suddenly cleared up. Hitherto we had spent the only fine days in journeying from Zermatt to the Eggishorn and back, and I was still in very poor condition. Nevertheless in eight days I was able to accomplish a new route on the Kienhorn, the first ascent of the Aletschhorn, by the S.E. face, and the descent of the *Furggengrat* of the Matterhorn!

At midnight of August 28–29, 1929, the weather at the Eggishorn still appeared doubtful. My guides, Kaspar Mooser and Linus Pollinger,[2] were profoundly depressed at our repeated weather disappointments, but for once I was an optimist and determined to start at all costs. We glanced at the barometer : it was going up!

[2] Son of Heinrich and grandson of the late Aloïs Pollinger of St. Niklaus.

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A quarter of an hour later, lanterns unnecessary, we took the too well-known path of the Märjelen Lake. Moreover, the main frontier ridge to the S. was covered with cloud; summer lightning played continuously, giving daylight-like effects. Every now and then the powerful searchlight on the Jungfraujoch appeared, seeming, at 8½ kilometres distance, like a great and setting constellation. The storm-clouds dispersed gradually, and by 5.50 A.M. we had arrived a little above the contour 2700 m., somewhere about the *M* of the word *M*ittel Aletschgletscher on the map, where the gentle angle of the glacier suddenly steepens.

On our last attempt we had steered from this point straight for our mountain's S.E. face and encountered every sort of glacier trouble; we had struggled there for hours, not even knowing whether some tremendous crevasse would not bar the way higher up. Smothered in mists, only the marks of our crampons showed the downward track. In some years, or earlier in the season, this region may possess totally different characteristics.

Rather than commit ourselves to this labyrinth, we resolved to try to turn it by the right. To do this we were at first obliged to bear towards the Aletschjoch. The steep icy slope, facing due S., is fortunately much honeycombed as regards its surface. According to the 'Imfeld Panorama,' the original of which is the pride of the Hôtel Jungfrau dining-room, this part of the glacier is called the Ahrengletscher, but the Siegfried refuses to adopt this possibly time-expired nomenclature. We mounted rapidly, and in less than an hour, with splendid weather, attained the height of 3100 m., where the dry glacier vanishes under a coating of hard snow. We put on the rope; Mooser's mountain instinct had led us well, and nothing now prevented a straight course towards the base of the Aletschhorn.

Without difficulty, steering W., we continued up to the base of the great ice cliff, interrupted only by the two *rognons*[3] or hot-plates previously mentioned. An avalanche had fallen to the base of the cliff. We stood spell-bound gazing at its extraordinary shape; the enormous mass, geometrically perfect, resembled the hull of a ship at anchor on the glacier, the stern turned towards us being an exact reproduction. In all probability we shall never see such a striking object again. We

[3] The scene of the disaster of 1912, when Andreas Fischer lost his life, his companions, Dr. Jenny and Ulrich Almer, surviving: '. . . they battled like men but the mountain won.' *A.J.* **26**, 456–7.

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tore ourselves away from this extraordinary vessel, and soon the great rocky face of the mountain required all our attention. For half an hour we advanced across a conglomeration of fallen icicles resoldered together by frost. The danger from falling séracs was continuous. Further on, in a sheltered spot, we took our first meal after 8 hours of march. Linus Pollinger, with his eighteen years of life, helped us to make a vast hole in the provisions.

A great and prominent rib or buttress divides the entire S.E. face into two unequal parts. This rib is well to the right, E., of the plumb-line of the summit and finishes in a snowy bastion of the E. arête. Séracs lying further to the E. overhang the face. This formidable step was conquered in 1928 by Mr. J. W. Alexander [4] with Oskar Supersaxo. Starting from a bivouac near the foot of the Klein Dreieckhorn, the E. arête was attained *via* the rocks on the E. slope of the great rib, and the arête was then followed to the summit. The rib throws out at its base a great salient projecting into the Mittel Aletsch Glacier.

To the left, W., of the great rib is the wall descending from the summit and which constituted our objective. Other ribs, couloirs and ledges make up a very complicated terrain, twisted, moreover, in its upper part by a diagonal striation from left to right. Opposite the rib and forming the western margin of the face, another rib of terrific steepness mounts to the tower, Point 3966 m.; this rib is still unconquered.

We started at 8.35; the air was still, while the increasing heat caused the snow to soften. At 9.0 we attained the prodigious bergschrund. Owing to the angle of the slope, its lower and overhanging lip had concealed it hitherto. No direct crossing seemed possible, but some 90 m. to the left we discovered a rickety structure spanning the depths with an appearance of careless strength. A diagonal ledge enabled us to descend into the void, choked at this spot by an avalanche filling it to within 5 or 6 m. of its brim. A crevice in the ice wall opposite was scaled exactly like a rock chimney. Emerging at the end of 20 minutes, we found the snow near the upper lip still further softened. Stones, invisible from their speed, whistled about our ears; it was nearly half an hour before we could attain the rocks. These latter were so precipitous that, hoping to save time, we mounted by that snow tongue leading highest into the couloirs. The high angle rendered our advance over this

[4] *A.J.* **41**, 404. Mr. Alexander is one of the finest of latter-day American mountaineers.—*Editor.*

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cream-like substance exceedingly arduous. The danger of falling stones compelled a ceaseless watch on the couloir above. Consequently no one grumbled when another and impossible crevasse forced us on to the marginal rocks. Hardly had we taken to the rocks when a shower of stones came down; these gradually compacted themselves and then flowed gently down like a stream of water. Our present Alpine equipment is still deficient in shrapnel helmets or shields! We jammed ourselves against the face, but several ricochets caused us to display unwonted agility; we squirmed up narrow cracks affording hardly room for feet or hands. So swift was our flight that a naturalist would have found in us three specimens of the 'Missing Link,' hitherto supposed to inhabit Java!

The light, almost white, appearance of the rocks recalls, in the steeper parts, certain scrambles on the banks of the 'Whymper' couloir of the Aiguille Verte. For 20 minutes the stream of stones continued unceasingly. The majority leapt the bergschrund and ploughed up the deep, soft snow. Long before the 'Cease fire' sounded we had passed a little platform level with the uppermost end of the snowy tongue. We then pulled out to the left, crossing two small stone-swept couloirs.

The Chamonix-like granite was succeeded by a great stratum of dark and shattered rock. All care must be exercised in not breaking or disturbing anything. Gingerly and cautiously handling each slender hold, we endeavoured to discover some safe if distant grip, treading the while with stealthy footsteps—almost as if we were caterpillars. At 10.30 we attained a rib slightly to the right appearing to mount directly to the summit. It was, however, impossible to be certain. A previous reconnaissance of the S.E. face from the Mittel Dreieckhorn would have been useful, despite the latter's position.

The rocks composing the rib are very firm and as rough as those of the towers on the Lenzspitze-Nadelhorn ridge, where, with no trouble or expense—save the tariff—all can imagine themselves brilliant cragsmen! For half an hour we mounted rapidly, perceiving occasionally between our feet the base of the wall or the upper extremities of the glacier all speckled with the stones shed by the mountain. Already we were counting our chickens before they were hatched, when all of a sudden the rib reared itself almost upright, and for 20 m. we were forced to crawl up one at a time. This was followed by a wall, smooth and perpendicular, affording neither hold nor hope. But at these moments there exists always some saving ledge; it

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is simply a question of searching. The one we discovered, smooth, narrow and outward sloping, leads to the left. A rock protuberance cuts it off a few metres further on. Behind this angle lies the solution of the riddle—or the defeat of the party.

The solution consists in a couloir parallel with our rib, where patches of snow, undermined by a stream of water, rest on a glassy surface, smooth like a roof. Between the ledge and the couloir stands a vertical wall. This wall can only be crossed by a diagonal *descent*, where success depends on the nature of the rare and distant holds. This traverse is the key to the entire expedition. We set about it quietly and methodically, each of us copying the other and availing himself of the same holds. Finally, the party reunited itself on the margin of the couloir, by no means a cheery spot! 'So, jetzt!' exclaimed Mooser in the most cheerful tone of voice, just as if we had landed on a high road with all our cares behind us.

I have stated elsewhere that a *born* mountaineer's ankle has more play than that of a plainsman. The angle it forms between the big toe and the leg opens out and closes again far more, even presupposing the subject not a mountaineer by inclination or profession; and I would add that Mooser, on these polished slabs, almost invariably places his feet *flush* with the slope, while I am continually finding myself obliged to place my feet *across* the said slope.[5]

Higher up the angle eases off several degrees, and this at once turned an awkward climb into an easy one. The couloir next bifurcated into two parallel gullies; we chose the right-hand (ascending) one, of which we climbed the true right edge. At 12.15 a glance behind showed that we were level with the gendarme, or Point 3966 m. This quite made up in our eyes for the troublesome sight of great clouds rolling up from E. and S.

At 12.40 we once more regained our trusty rib, a sure safeguard against falling stones, and, after 15 minutes of ordinary scrambling, attained a platform suitable for halting. We stopped for 10 minutes, our second and last halt between the Hôtel Jungfrau and the summit.

The E. arête was now but little above us, and after 15 minutes of further scrambling, instead of making straight up to the junction of rib and arête, we bore diagonally to the left across

[5] See the late Mr. G. E. Wherry's *Alpine Notes and the Climbing Foot*. Macmillan & Bowes, Cambridge, 1896.—*Editor*.

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easy rocks, attaining the said arête at an acute angle to its crest. The S.E., or watershed arête, and its point of intersection grew ever nearer and the summit appeared close. We made out that the top must lie a little beyond some rocks, perhaps 100 m. distant, emerging from the crest. We now felt that the Aletschhorn was conquered and the struggle over. We strolled lazily along with complete *nonchalance*. Suddenly, without any change of colour, the snow turned into ice; not the blue ice, polished and shining, but thick and dull in appearance. We had to cut every step. Mooser objected to putting on crampons, considering that we should take less time cutting a few steps than in strapping on the irons. However, beyond the rocks, the arête lengthened out and continued icy to within a few metres of the summit. We took nearly half an hour to cover a distance we could have accomplished in 5 minutes with crampons. However, at 2.15 P.M. the ascent was completed.

It was the second time that I had attained the top of the Aletschhorn, each time by a new route.[6] To-day, by descending to Belalp, I was about to learn a fourth route, a very common and easy one.

Lying prone on the top we gazed indifferently at the vast *cumuli* circling above us like the inflated gas-bags of a balloon. We were at peace with the world. However, if we were to avoid a thunderstorm we must obviously hurry. At 2.45 we left the top, and, to cut a long story short, at 8.15 P.M., amidst the din of a thunderstorm, dripping and blinded by rain, were knocking at the door of the Hôtel Belalp.

II. Furggengrat.

Nowhere in the Zermatt region are descents *en rappel* strictly necessary. I have related elsewhere the remark of a local guide by whom the chance of an engagement in the Chamonix Aiguilles was still awaited: 'All right for Chamonix your low-down tricks, but here our precipices are far too high!' And yet it is at Zermatt that such descents find their fullest scope.

No one who has gazed at the outline of the 'Furggen' arête

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[6] On August 9, 1925, M. Blanchet, with Kaspar Mooser, made the ascent by the N. face—a variation of the previous 'Lochmatter-Ryan' line of *descent*, *A.J.* **37**, 373–4, with marked illustration. For a note on other routes on the N. face, see *A.J.* **36**, 92.—*Editor.*

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can ever forget it. To mountaineers it has been at once a terror and an obsession. Only Mummery in 1880,[7] Guido Rey in 1899,[8] Winthrop Young and Ryan in 1905,[9] and Piacenza in 1911,[10] have come to grips with it. No Swiss has tried it hitherto. Yet, is it not the finest arête of the most striking peak of Europe? And do not the Swiss hold an honourable position in mountaineering?

Of the four parties mentioned above, two only were able to tackle the true problem—the discovery of a feasible route from Shoulder to Summit. One party, that of Rey, sought the solution on the N.E. slope of the ridge; the other, that of Piacenza, found it on the southern, or Italian, side. First Mummery, then the Young-Ryan party had already scaled the ridge as far as the Shoulder, their principal anxiety consisting in the avoidance of falling boulders. They were forced to renounce any attempt beyond the Shoulder, and escaped by traversing towards the Hörnli arête.

We spent Friday, August 30, in moving from Belalp to Zermatt. The storm of the day before had cleared the atmosphere entirely, without leaving even a sprinkling of fresh snow on the tops. What a pity it all seemed; never could the Furggengrat have been in better condition! Should we ever find again this favouring warmth for those breezy high-altitude descents on the rope, such absence of wind or threat of thunderstorms?

It was obvious that we ought to try the arête at once. By going up to the Hörnli on the following day we should take advantage of Sunday, a day of almost total rest for the Matterhorn. Stone avalanches would be rare in consequence; but for Mooser it were better to run these risks in all their amplitude than dodge his Sunday religious duties.

On Saturday, with my wife, I scrambled on classical spots on the Riffelhorn—'Sky Line,' 'Glacier' Couloir and 'Lake' routes. From the top I gazed eagerly at the Furggengrat; a cloud was materializing on it. Every day during this long spell of fine weather, such clouds appeared, thickening and spreading, black and threatening, only to vanish again at nightfall.

That evening we made our final preparations, the purchase of all that Zermatt could provide in iron pitons, rope-rings, etc., while Mooser looked to his drill and hammer. We examined our long-span rope of 82 m.—cut into two unequal pieces for the

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[7] *Mummery*, pp. 24–44.
[8] *A.J.* **20,** 17–20.
[9] *A.J.* **23,** 270–3.
[10] *A.J.* **26,** 80–1; 150–8.

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exploration in 1928 of the Matterhorn's N. face by Mooser and Viktor Imboden.[11]

To save exertion I determined to take young Linus Pollinger as far as the summit. He should carry all our ironmongery and spare rope, and then descend alone by the same route. Also I decided to sleep on Sunday night at the Schwarzsee Hôtel so as to avoid hearing once more at the Belvedere the din of a breakdown danced, over one's head, in wooden clogs 'borrowed' from the neighbouring S.A.C. Club Hut.

At the Schwarzsee were few visitors. The E. face of the Matterhorn was steaming from summit to base. The shifting vapours clung to the wall, describing great curves over its left-hand margin—the Furggengrat. Night would doubtless dissipate this daily phenomenon, seeming to grow ever more threatening. Another day was bound to increase its black and menacing appearance.

At 5 P.M., their consciences doubtless whitewashed, Mooser and Pollinger rejoined me. Nothing had been forgotten, the collection of 'peak-baggers' was present and correct. We were ready to find the answer to all riddles, and doubtless the Furggengrat conceals many.

After a slight shower the weather cooled off while the clouds shred away into space. I slept till 2 A.M.; the moon was not yet in its first quarter, but countless stars attested a clear and mistless night. We were 2000 m. below our summit—rather a long way to start from when attempting the descent of a Furggengrat! Unluckily Mooser was suffering from indigestion. We trusted that movement followed by rests would cure him. At the Solvay hut we met an Austrian party which had climbed the mountain by the Z'mutt ridge; they had bivouacked within a few steps of the hut. At 10 A.M. we reached the summit. By our gentle ascent we had restored more or less the strength of our invalid; at all events, he stated his readiness to start after a fresh halt. The 82-m. rope was transferred from Pollinger's rucksack to Mooser's together with some food and drink. We also took a light sleeping-bag weighing some 6½ lbs.; folded up, this latter can be stuffed almost into a pocket.

Linus was instructed to endeavour to communicate with us during his solitary descent to the Hörnli Shoulder. We had accomplished the entire ascent without the rope; now, however, this latter was brought into use.

At 10.35 a start was made. The beginning of the Furggengrat

[11] *A.J.* **40**, 404.

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is nothing else but the left-hand edge of a vast sloping glacis; to the N.E. lies a tremendous precipice, while on the contrary, to the S.W., there is no suspicion of an abyss. No comparison is possible between ours and a real knife-edge, like that of the Rothhorn for instance. We seldom followed the edge, we chose rather a tortuous line of least resistance, meandering among huge loose boulders which sometimes compelled us to leave their vicinity. The dislodgment of one single rock appeared likely to cause a complete landslide. Our line of descent was often broken by steps several metres high, at other places seemingly smooth and sloping slabs intervened. These were, however, sufficiently rough for frictional progress. The general effect consisted in a chaos of little 'roofs,' some plunging down towards the S., others facing N.E. or W. The sun glinted brightly on these intersecting blocks, darkened or discoloured when in shade. Dark crevices opened out between the stones. At one spot, hung up like the gutter of a roof, above a considerable drop, we let ourselves slide on to a narrow ledge overlooking the north-eastern abyss. Gradually the arête took shape; to the S.W. and quite close a great chasm opened out. So far the mean of the angle had not exceeded some 45°. At the spot where the chasm begins, our ridge appears to support and hold up its downward plunge describing a kind of horizontal segment of a circle. This is obviously the edge of an enormous and precipitous drop of the great wall yawning to our left. Speechless, we hung over it for long. A tower prevented further horizontal progress along the crest. Tower and platform are easily recognized on photographs; they are the solitary examples of such on the sky-line from the summit to the great Furggen Shoulder. We knew that further on the angle of descent became excessively steep, prior to the great overhanging step. Accustomed as we were to the sight of downwards-plunging voids, we yet felt on passing the little excrescence bordering the platform an involuntary tightening of the heart-strings: doubtless the same feeling experienced by the budding air pilot when his machine falls into an air pocket.

At this spot commences the descent of that part of the crest appearing quite perpendicular from Zermatt and which closely precedes the impossible section of ridge. Taking every care, clambering from hold to hold, we followed the crest of the arête. The chasm to our right, S.W., opening out into a precipice and far below our present level, was crossed by Piacenza. It is a terrifying spot; into this fearsome couloir or chasm must fall countless stones and icicles, where everything around and above

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is loose and shattered. One of the conquerors of the S. face of the Täschhorn has summed up the success of 1911 : ' that a party should have actually started upon this route, after seeing what we saw, is even more surprising than their luck in escaping from it alive on to the summit ' (' On High Hills,' p. 224).

A little further on the arête plunges into space ; we continued along its Swiss slope, although close to the crest. A glance over the opposite or Italian side showed me, some 20 or 30 m. lower down, a curious heap of white detritus, all of similar shape and caught up in their fall by some narrow shelf. The idea at once flashed on me ; they must be the remains of Rey's ladder. I wished to clear up the mystery, but my guide appeared deaf on one side. He was anxious to continue, since at this spot begins the crux of the descent, the place on the Furggengrat where the climber begins his struggle with the laws of gravity.

Before reading the magic pages of Guido Rey devoted to the Furggengrat, I was under the impression that his attempts to scale it had been by the Italian side. Nothing could convince me to the contrary ; yet Rey had stated that the attempt was witnessed from the Schwarzsee. When I understood that the remains might be the rungs of a ladder, I was no longer in doubt that they were those of Rey ; for had he not stated that the party had hurled the ladder away into the gloomy depths, from perhaps the very spot where now we were standing ?

I followed Mooser in a diagonal descent to the left to a ledge projecting from the great wall. We were approximately below the tower forming the margin of the platform in the ridge of which mention has been made previously ; this spot constitutes the southern edge of space. In spite of the overhang not beginning till lower down, we decided to commence the *rappel* from this very ledge, since space both for movement and preparation was available.

Opening his bloated rucksack Mooser pulled out hammer, drill, and spare rope. There was no sign of any pitons ! Without noting their absence Mooser had allowed Linus to commence his descent carrying all our irons. We were completely at a loss and would have been compelled to abandon the expedition if Mooser had not suddenly remembered having left in the sack's outer pocket two or three pitons and a rope-ring for possible use on the Aletschhorn. It was impossible to judge correctly of the height of the step.[12] Mooser drove a piton into a crevice of

[12] Three *rappels* proved obligatory, or a total of 95 m. The slant of the second *rappel* is insufficiently removed from the vertical to be

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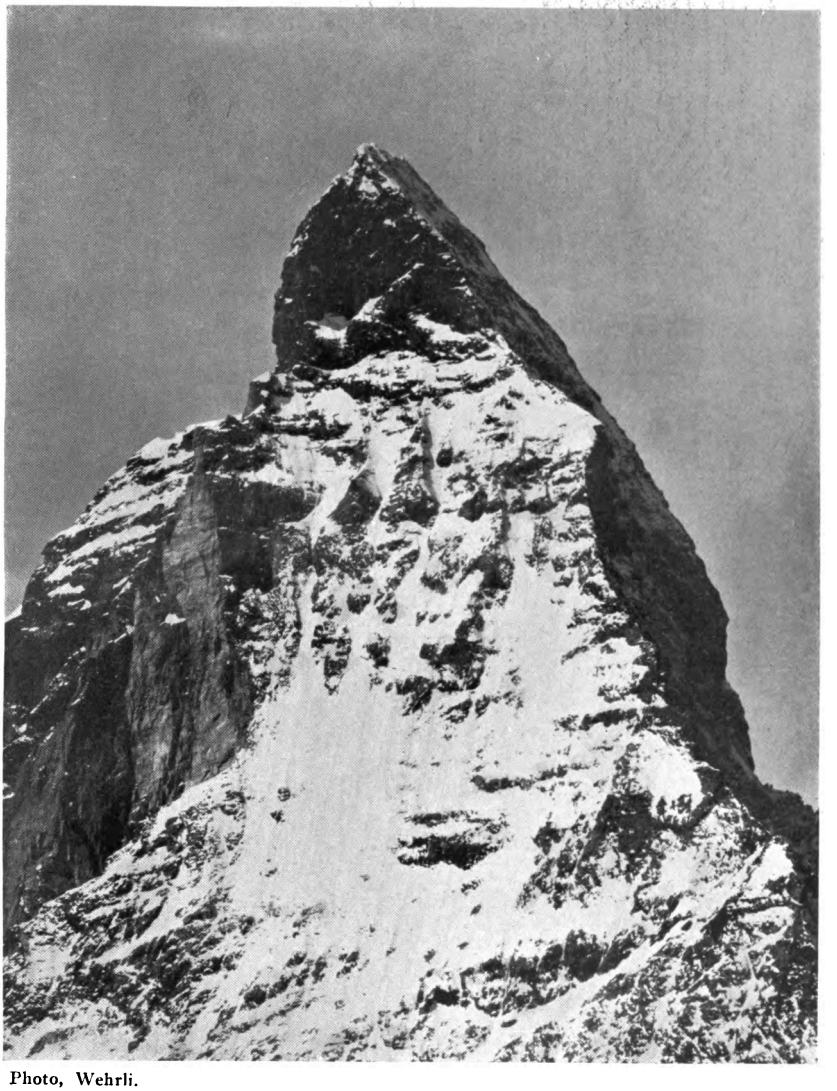

Photo, Wehrli.

MATTERHORN. Showing FURGGEN and HOERNLI Shoulders.

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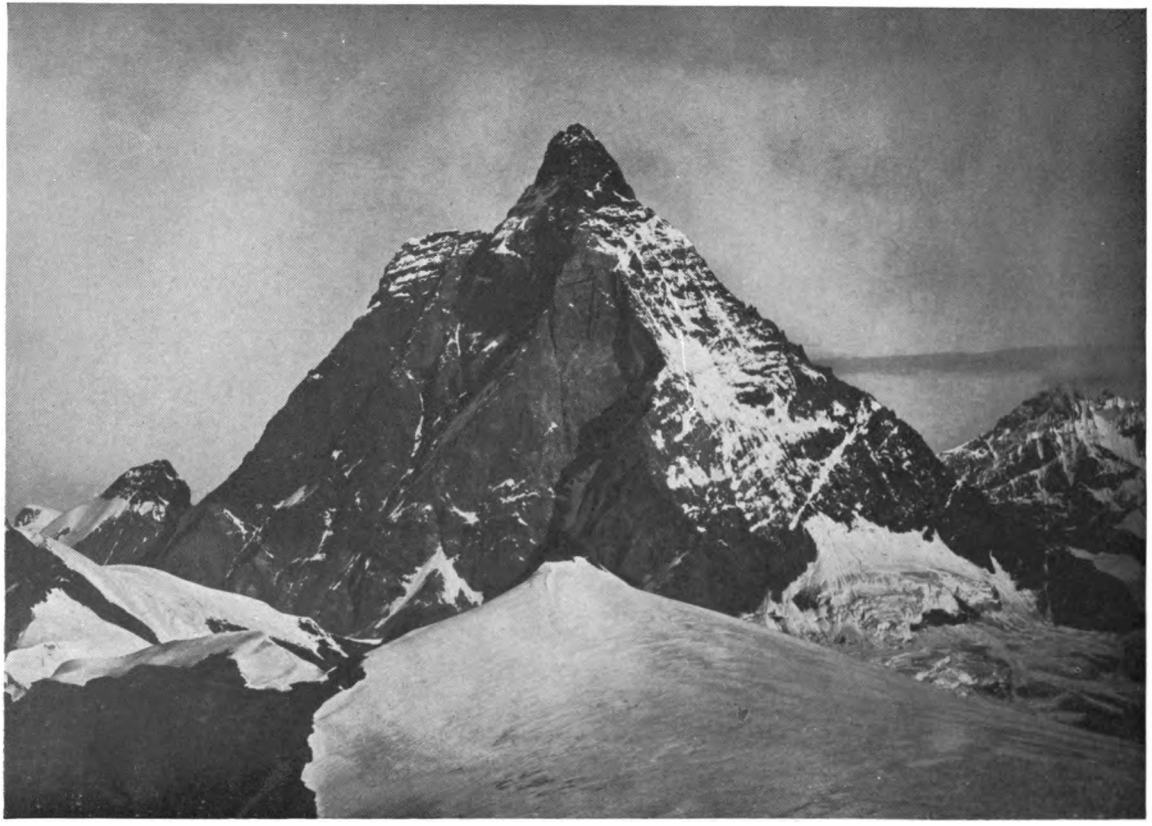

Photo, V. Sella.

MATTERHORN. From THEODULHORN.

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gneiss ; the blows of his hammer seeming to break an almost holy silence. We knotted together the two pieces of long rope, slipping them through the ring of the piton.

Clouds were, however, rolling up. Below the Shoulder and as far as the Théodule masses of vapour were creeping mysteriously along. I have written elsewhere of the danger of the climbing-rope incurred in the descent of an immense overhang, in the autumn of 1928.[13] Our experiences on that occasion convinced us of the advisability of an unroped descent. Mooser decided to go down first, clearing away débris from the vicinity of the overhang. I was to descend last—an honour, but one without responsibility when the party is unroped !

Soon Mooser was 15 m. down the wall, leaning over space and gauging the possibilities of a landing-place. The position of his body, almost horizontal and at a right angle with the wall, proved that the work was really serious. Hardly had he assumed a normal position when he started off again and vanished. Every now and then the rope quivered, while all around me circled wisps of mist. It was a long wait, but at last a faint cry of ' Kommen ' reached my ears. Carefully and gingerly I slithered down the wall. Holds and irregularities were not wanting, although all were thoroughly unreliable. On the Pointe Beaumont I had descended a precipice of 40 m., of which 29 m. were completely in space. On that occasion it was the *last* step of a descent of increasing interest, but here a 23-m. *rappel* beneath an overhang represented but a beginning. In another moment I should have severed all connexion with the upper Matterhorn, but how were we to re-establish it with the lower ? We were at the mercy of a possible jam of the rope when pulling it down after us. The fact of the fall of a stone or of one of the huge surrounding icicles cutting the rope or stunning us, is but a common risk. Still the sight of those shining, hanging masses, viewed at this spot when climbing the Hörnli arête, was far from encouraging. The risk spurred me to haste, but as soon as I slid clear into the open, a kind of exaltation permeated my limbs. The space between me and the wall widened out. I began to revolve, slowly at first, then quicker. Sometimes I saw every detail of the dark adjacent rocks, sometimes only blue sky, or light and circling mists. This diorama suddenly ceased ; I was standing by Mooser on a comfortable if narrow

able to calculate the difference in levels. Rey fixed his 80-m. rope lower down, and, to the spot where it was secured, his guides seem to have descended without extraneous support.

[13] *A.J.* **41**, 74–5.

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ledge. Shouts emanating from the Hörnli ridge reached us. Had Pollinger seen us or was he anxious? We shouted back in turn. . . . It was now midday.

In spite of all the usual manœuvres the rope refused to follow us and resisted every pull. Yet we were dragging at the right end, namely, drawing down below the *knot*, and we had noticed no crack in which it might have caught. There was, however, a frictional step above the overhang, some 15 m. high. We could only move sideways and this gave little help. A descent of a few steps into space would alter the direct lie of the rope, the trouble being obviously caused by the intersection of the rope with a nearly vertical and an overhanging section. A move, I say, would suppress this unfortunate angle, obtuse as it was, which was wrecking our best efforts; suddenly, however, all resistance ceased and the rope came down with a swish.

To the S. descend diagonally a series of chimneys, vertical, but not overhanging, although a *rappel* is equally necessary. Drilling out a hole in a crack we fixed our solitary rope-ring; we then slid gently downwards for some 25 m. to a fairly spacious platform. Here again we hammered in a piton securely and Mooser restarted. Standing motionless between two abysses, I soon lost sight of him. A few moments later, after 12 m. of vertical descent, I spun round like a spider at the edge of its web, but my own feelings ascribed complete immobility to my body; it was the Matterhorn, the distant Breithorn, the thickening mists, the vanishing blue sky, which were spinning around me. In these gyrations appeared suddenly a patch of snow, then Mooser himself. This overhang of 23 m. was still more into space than the first. To the spinning motion was added gradually a kind of pendulum-like swing; both ceased suddenly and my descent at once became laborious in the extreme. The rope, just now sliding over back and thigh, became immediately hard and erosive: Mooser had seized the two ends, thus causing me to struggle painfully against a useless brake. Finally, stiff and sore, I landed beside him. Mooser had tried to spare me the swing, alternately over Italy and Switzerland, undergone by himself. I should have preferred such revels; my thick if rather worn knickerbockers were seared by the rope, and I was bleeding profusely.

We both drew down the rope gently; it fell at once partly over the edge. When the Furggengrat shall have become 'an easy day for a lady,' it will be advisable for *two* at least of that sex to attempt the descent, as their united strength will be required to pull down the rope!

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Mooser inquired whether I had seen the aeroplane, and I naturally replied that I had seen and heard nothing. However, it appeared that during my descent an aeroplane had flown quite close, and that its observer had made signals. Was it the

Photo, Perrochet-Matile.]

ON THE FURGGENGRAT.

same machine which I have omitted to say, so common has this become, had flown over the Matterhorn's summit a short while ago, reminding us of the din of civilization and home? Heavy raindrops, drying at once, now quickly diverted our thoughts, while the voice of Pollinger calling to us was audible.

Once and again the slope dipped downwards before us. Winding up the rope we descended diagonally to the left, crawling across narrow ledges or scrambling down little steps. This kind of staircase ceased at the brink of a precipice steaming

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like a boiler. Soon to the right we found an exit and with it the end of our adventures. A sort of easy and diagonal couloir, chimney in parts, ledges in others, led downwards some 20 m. to a well-marked shoulder: it was the Shoulder of the Furggengrat. We reached it at 2.30 P.M., and our yells speedily informed Pollinger of the fact.

Others have found themselves on the same Shoulder. Some defeated after gallant and desperate struggles, others obliged to surrender before the last assault; only Piacenza can boast of having been here *en route* to a true victory! But what a contrast with us: his guides and himself, their nerves stretched to the utmost limit, quivering at the thought of the frightful struggle; while we ourselves stood there, care-free, nerves and muscles alike relaxed.

The mists are bent by different winds. They twist and writhe about the crest of the Shoulder warmed by the still present sun. A sea of cloud, driven by some blast, spreads and clings some hundreds of feet below us, creeping higher, however, on the mountain's eastern face. A halo appears, and in this halo is traced a faintly human outline. The sun had penetrated the clouds behind us, and on the lower and thicker screen appeared the Spectre of the Brocken. Long we gazed at it, but soon the phenomenon grew paler and vanished. 'Sehr Schön!' ejaculated the matter-of-fact Mooser. He had not read Whymper's book, describing a similar or analogous vision, or of the terror it inspired in his men.

It will be remembered that only 15 m. intervened between Rey and triumph. How, then, did it come about that we had to descend two complete overhangs, or 43 m. completely in space? We certainly did not hunt for a route that would reduce the overhangs to a minimum; moreover, I had attributed to the *S.W. slope* of the arête all details furnished by Rey as to the *N.E. slope* conditions, and, in an *ascent*, appearances naturally would have been far different. Geoffrey Young writes: '. . . alternatively we argued for a direct assault upon the unclimbed corner bending into the sky above us. Simply as climbing we agreed that the corner would go; and I still think so . . .'[14] Less positive, Mooser considers that a few wooden plugs might *possibly* lead to success. I am even less convinced; yet two plugs, despite all appearances to the contrary, *did* yield the key to the ascent of the Rothhorn in 1928.[15]

[14] *On High Hills*, p. 224.

[15] *A.J.* **40**, 378.

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In any case the fact remains that Rey and his guides studied on several occasions the riddle of the Furggengrat, both from top and base. Rey, alone, has set his foot on every point of the wall for a distance of 65 m. The evidence is conclusive that on the occasion of the desperate attempt of 1899 a different route from ours was followed. Naturally that route, although *entirely* different from ours, was yet extremely adjacent.

Two routes are open for the descent to Zermatt. One, of ill fame, shorter, raked by stones and extremely difficult at one spot—the horizontal traverse towards the Hörnli arête. The other, longer and awkward only at the take-off—the descent of the remainder of the Furggengrat.[16] There is no comparison between this take-off, although much exposed to stonefall (at the top of Rey's Couloir), and what Mummery and Young-Ryan found when pulling out towards the Hörnli.

We succumbed finally to the attractions conquered with such difficulty by Mummery and his successors.

To begin with, a short *descent* is required. Some snow and a damp kind of slippery, sloping roof led to the upper exit of the 'Couloir Rey.' By this couloir, inserted between the main arête and a secondary buttress, projecting lower down into a kind of promontory—as viewed from above—and outlined in strong relief on the slope, a party can avoid the great step below the Furggen Shoulder. The said step just removes the reproach that the lower part of the Furggengrat is, in Geoffrey Young's description, 'little more than a retaining rim of the great S.E. face of the Matterhorn.' The main stone-shoot lies in the angle of the 'Couloir Rey' and the great blank void. We slipped rapidly across the line of fire, glancing up anxiously to the heights now concealed by very black mists and straining our ears for the slightest sound. Behind us re-echoed a clatter of falling stones; we fled like a herd of scared chamois, but soon resumed a slower but safer progress.

Gullies, ribs—these latter curving in and out of the face—and we saw the Hörnli arête before us. We braced our muscles for the fierce and final struggle; but where was the difficulty? We seemed to have missed it, because with *great* ease we struck, at 3.40 P.M., the arête between the two lower pitons of a group of four, constituting the supports of an old and useless rope.

[16] The nature of one step, quite low down on the Furggengrat and far below the Shoulder, is appreciated differently. It is certainly short, and Piacenza crossed it unroped. He climbed the arête as far as the Shoulder in 2½ hours and without the rope.

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Former parties, with the summit as their objective, must have instinctively edged *upwards*, while we bore, naturally, *downwards*. So, somehow or other, we had found the easy variation to a much abused route. Still, it is an awkward traverse, where the ankle must be greatly bent to enable the foot to cling to outward sloping slabs. Were it not for snow patches and dripping slabs, *Kletterschuhe* would be of splendid use. We had debouched on the Hörnli arête within 15–20 minutes' walk of the Solvay hut, where we made a prolonged halt. Mooser spent his time bending over the N. face and gazing into its ghastly depths.

Finally, we lazily commenced the descent by that route where sardine tins rattle down in avalanches. So slowly did we move at first that only the fear of a rescue party eventually quickened our footsteps. At 6.30 P.M. we entered the Belvedere. Thirst and many showers delayed us long in the Schwarzsee Hôtel, and our arrival at Zermatt was very late.

On the following morning a telegram despatched from Zermatt to the *Gazette de Lausanne* announced 'the first descent[17] of the *Z'mutt* arête.' Linus and Mooser were not the only disgruntled persons in that valley of Zermatt!

A Month in the Canadian Rockies.

By L. S. AMERY.

(Read before the Alpine Club, February 4, 1930.)

I BELIEVE it is a matter of dispute among historians whether the last words ever uttered by the younger Pitt were 'My country, how I leave my country,' or 'I think I could manage one of Bellamy's pork pies.' I can assure you, beyond dispute, that when the late Secretary of State for Dominion Affairs and the Colonies received his notice to quit, at the end of May last, his reflections on leaving Downing Street were not 'The Empire, how I leave the Empire,' but 'Now I can manage a climb in the Rockies.'

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[17] The first *descent* of the Z'mutt ridge was accomplished, Aug. 31, 1894, by two separate parties: Miss Bristow with Josef Pollinger and Mattias Zurbriggen; Captain Farrar with Daniel Maquignaz and (?) another. Miss Bristow made the ascent by the Hörnli ridge; Captain Farrar went up and down the Z'mutt. *A.J.* **37**, 226–7.—*Editor.*

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The peculiar fascination of the Rockies is a theme on which more than one member of the Club, from Norman Collie downwards, has spoken in recent years, and I shall not attempt to descant on it at length or to attempt an elaborate comparison with the Alps. Suffice it to say that, broadly speaking, the Alps surpass the Rockies in the individual beauty as in the height of their peaks, but that the way in which the Rockies rise straight from their broad valley floors, or from the shores of the exquisite lakes that fill them, gives to the mountain landscape a massive dignity and a spacious harmony which are unsurpassed elsewhere. And if in the Alps both eye and heart rejoice in the constant contrast between Nature at her wildest and frugal, busy, cheerful human activity wresting from her every inch that can be tamed or utilized—while our more ignoble instincts complacently accept the fact that the way to and from our most glorious days of adventure are smoothed by motor buses and hotels, by paths and well-'bewirtschaftet' huts, by Bouvier or beer, by hot baths and sedulously attentive head-waiters—in the Rockies Nature is still absolutely by herself, untouched, untamed, and communion with her more continuous and deeper. There is a tranquil and mysterious delight in starting from a Swiss village in the still of night, hearing our boots clatter across the old bridge over the foaming torrent, passing the white-washed church and the dark silent houses, and so across dim fields to the upward path. There is also a fearful joy in doing Blondin by candlelight over a similar torrent on a single tapering tree-stem which feels more like a fishing-rod than a bridge, and then plunging through a jungle of alder bushes into a tangled forest where fallen trunks are piled up like spillikins. Each prelude to the day has its own charm.

For my part, I was hungry for the Rockies. I had climbed a little in the neighbourhood of the main line of the Canadian Pacific in 1905, and in 1909 I was one of the party of our members who enjoyed the hospitality of the Canadian Alpine Club at their camp by Lake O'Hara—an unforgettable experience—and then, with Hastings, dear old Mumm and his faithful Moritz Inderbinen, walked some 400 miles from Edmonton to try to make the first ascent of Mt. Robson.[1] We failed and others succeeded. The railway opened up the wilderness we had traversed, and from that route at any rate I knew that the peculiar charm for me of the Rockies had

[1] *A.J.* **25**, 90–1; 293–305.

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departed, to give way to luxurious hotels, to golf links and all the other attractions which have made Jasper so deservedly popular as a tourist centre. But I also knew that between the two railways lay some 200 miles of the main range still practically as untouched as when I gazed at its distant peaks twenty years ago, or for that matter when Collie and other pioneers first entered it a decade earlier. There are several more definite trails, and a certain number of trail riding and camping parties visit the region every summer—we met four in the course of a month's travelling. But there is still, as far as I am aware, not a single permanent dwelling between Lake Louise and Jasper, though a few log cabins have been erected for the use of the forest patrols or wardens of the two national parks—a wise provision of statesmanship, which we should do well to imitate—which cover the area between them.

This region contains most of the finest alpine scenery in the whole chain: the group of peaks round the magnificent Freshfield Glacier, the tremendous pyramid of Mt. Forbes, the Lyells, Mt. Alexandra, and above all the great Columbia Ice-field and the peaks around it—Mt. Columbia, the second highest in the chain, Mt. Bryce, The Twins, Mt. Athabaska, Mt. Saskatchewan, Mt. Alberta, to mention but a few—which form the real heart of the Rockies. From this great shield of ice, covering 150 square miles at an elevation of 10,000 ft. and over, the Athabaska flows away to the Arctic, the Saskatchewan to Hudson Bay and the Atlantic, and the Bush River towards the Columbia and so to the Pacific. Most of the main peaks have been climbed in the last few years. But there are still a few virgin summits to be conquered.

Among these was one which had for me a particular interest. When I passed through Canada on my official visit to the Dominions two years ago, I was informed that the Geographical Board at Ottawa had done me the honour of naming after me a fine peak of 10,940 ft. standing at the junction of the Alexandra and Saskatchewan rivers, and so at the very gateway of the Columbia Ice-field. The problem of nomenclature in new and uninhabited mountain ranges is no easy one. Our Anglo-Saxon powers of imagination have generally boggled at the task of inventing descriptive or fanciful names, and we have tended to fill up the map with personal labels. Occasionally a mountain is called after the first person to ascend it. But such persons are often young and not of sufficient note to rank as eponymous heroes. I can, indeed, myself

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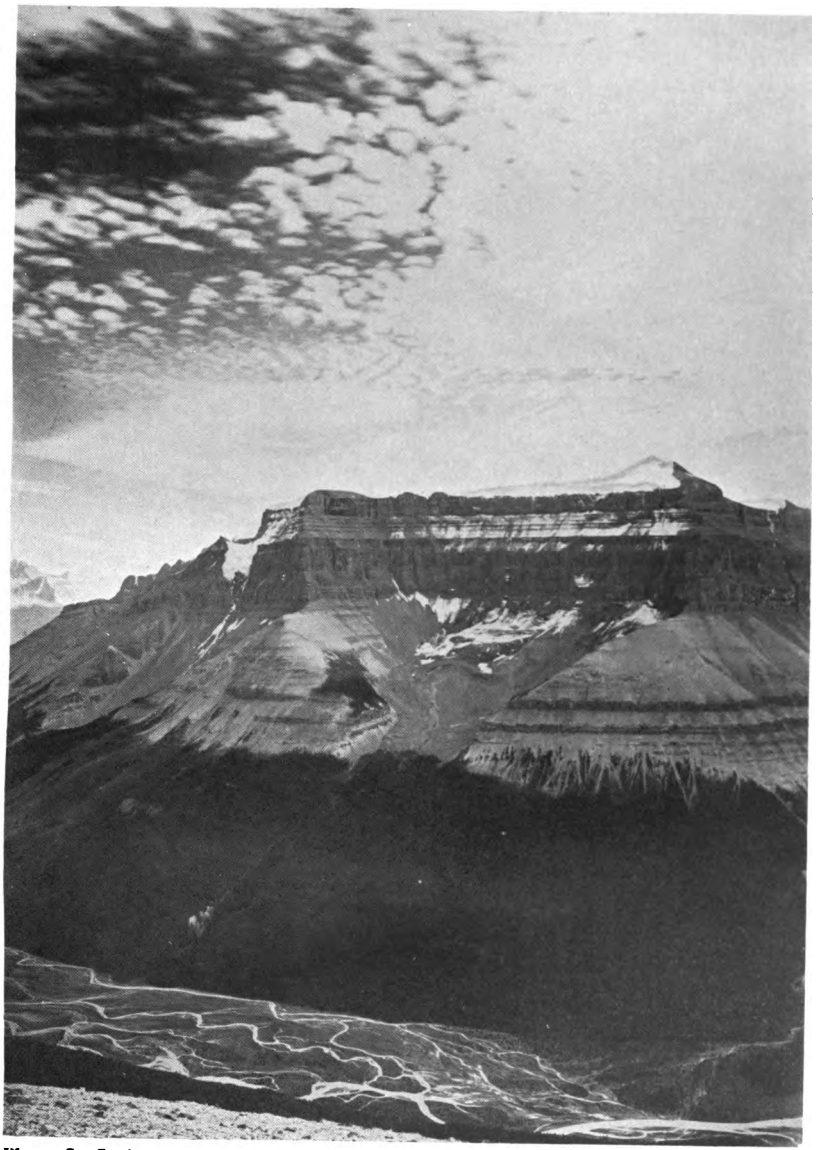

Photo, L. S. Amery.

Mt. AMERY. From N.W.

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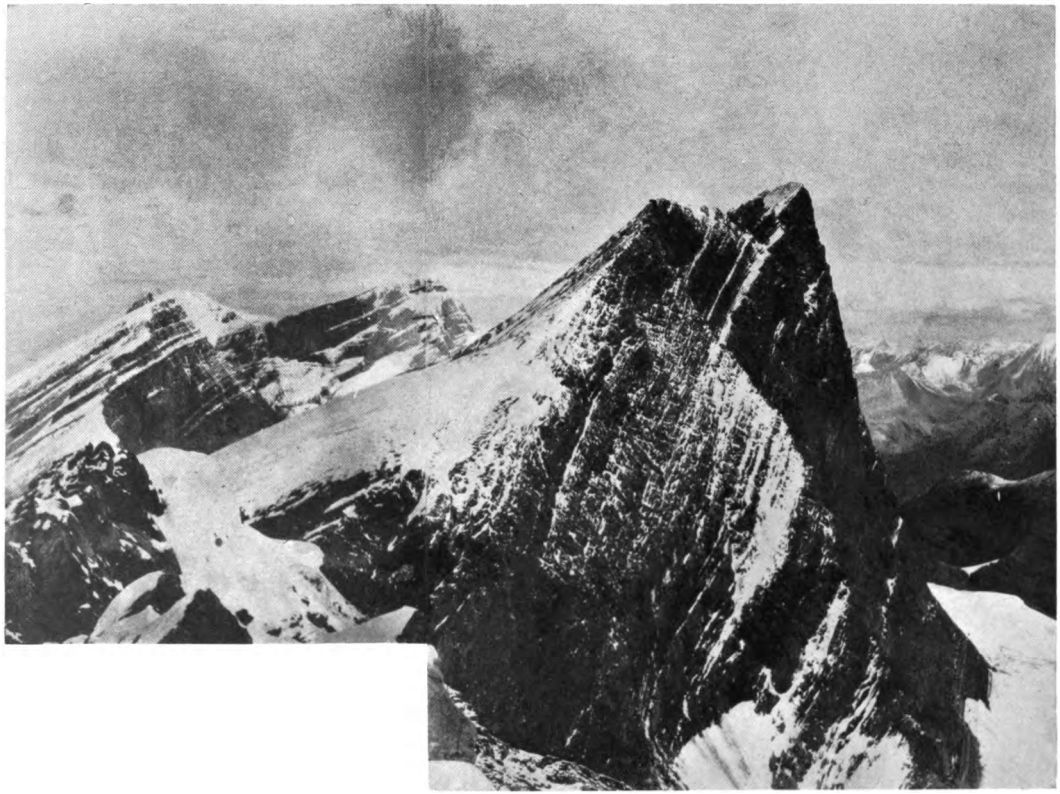

Photo, L. S. Amery.

"A_2". From Ridge to the S.
(Mt. UNWIN and Mt. CHARLTON in background.)

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claim one of the minor peaks jutting out from the main mass of Mont aux Sources in the South African Drakensberg under this heading. But I have to confess that I had to wait twenty-five years for the label, and then I doubt if I really got it on climbing merits. More frequently they are called after more or less eminent persons who have never seen them, let alone attempted to scale them. In New Zealand, where public interest seems to have been almost non-existent a generation ago, an enthusiastic Teuton in the Government department concerned successfully baptized peaks galore after all the German soldiers, statesmen and scientists he could think of, and Cook and Tasman and Dampier are still wondering how on earth they came to be mixed up with Bismarck and Roon and Unser Fritz! In Canada things have been done better —does not a whole series of peaks immortalize members of this Club? But they have had to fill up with politicians and suchlike, and it was after one of that ilk, I suppose, that Mt. Amery was designated. The designation conveyed an obvious challenge. Why not raise Mt. Amery from the second to the first category and show myself justified in the appellation as a mountaineer, and not merely as a politician?

I reached Banff on August 13 and found that the kindness and energy of my friends, Mr. Murray Gibbon of the C.P.R. and Mr. Wheeler of the Canadian Alpine Club, had fixed up all my arrangements at shortest notice. A first-rate Swiss guide, Edward Feuz, with twenty years of Canadian experience, and a thoroughly well-manned and well-found pack train of Mr. Jack Brewster's would be ready to start within forty-eight hours. Mr. Wheeler himself, in spite of his sixty-nine years and a recent accident, was ready to come with me for the first ten days, and his incomparable knowledge of the mountains, gained by a lifetime in charge of the survey work along the mountain boundary between Alberta and British Columbia and by an ever-youthful ardour of mountaineering enthusiasm, made him an invaluable as well as a delightful addition to the party. As a third on the rope for the actual climbing Mr. Gibbon kindly offered to send along a keen young member of the C.P.R. publicity staff, Mr. Bryan Meredith. The forty-eight hours were pleasantly and usefully spent at the Canadian Alpine Club's beautiful little headquarters hostel at Banff, getting camp and climbing kit in order, and at Lake Louise, making final arrangements for the start, getting in a training walk, and above all enjoying the beauty of the place.

On the morning of the 15th we started: the company already

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mentioned, our trail guide, Ray Lagacé, a couple of 'wranglers' to keep the pack train in motion, one of them an excellent camp cook, and two dozen ponies. The pack pony, or 'cayoose,' is, of course, the only possible form of transport in this country at present. It can scramble up and down the most impossible places, crawl or jump over fallen trees, wade bogs, ford or swim rushing rivers, and, above all, live on the country, finding grass where it can and leaves where it can't. The system has its defects. The carrying capacity of the individual animal is not very great. Marches have to be arranged to arrive for the night at some spot where there is a modicum of feed. As the animals have to be left free to gather their sustenance, they may take hours to collect in the morning; even a whole day may be lost in finding one or two artful dodgers in thick timber. Packing each animal takes a long time. The 'packers' have to be busy from before daylight to enable the 'train' to get away by 9.30. Once started, the train goes without a halt for five to eight hours at an average rate of 3 to 4 miles an hour over good track, but not more than 2½ miles an hour of distance on the map over ordinary rough up and down hill. Twenty miles in a day in the mountains is very good going.

Then comes the off-loading and unsaddling, the pitching of tents, the collecting and cutting-up of firewood, and of brushwood for bedding, and the preparation of supper. As family headquarters we had the regular Indian 'teepee,' or conical tent wound round a framework of poles. With its fireplace in the middle—the smoke curling up through a hole at the top—and beds and mats round in a circle, the teepee is the ideal centre for fireside talk, and an abiding refuge on wet days, of which we had not a few. Besides that I had a small tent of my own, 8 ft. by 6 ft., made for me by Messrs. Woods of Ottawa twenty years ago for our Mt. Robson expedition, and used in many parts of the world since. Weighing only about four pounds, this excellent little tent has stood every test of wind and weather. A couple of ground-sheets, a Kapok roll mattress and sleeping-bag and a couple of blankets made a portable and amply adequate roll of bedding, above all when the foundation of the bed is well laid with springy and fragrant fronds of spruce or balsam.

Four days took us to the Saskatchewan. The first two we ascended the valley of the Bow River, mostly through timber, with glorious views back at the mountains behind Lake Louise. Then a broad open strath, interspersed with trees towards the

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top, took us over the Bow Pass into the picturesque valley of the Mistaya, dotted with a series of lakes, overhung with peaks of striking outline, and giving, through side valleys, on our left, glimpses of the great snowfields and summits of the main range. The afternoon of the 18th brought us down into the broad valley of the Saskatchewan, nearly half a mile wide here, as it divides into numerous channels with gravel flats between. We had been told it might be a case of swimming, hanging on to our horses' tails; but, beyond a ducking sustained by our leader in looking for the ever-shifting ford, we crossed over in no more than breast-high water with all our loads intact. Fording and re-fording rivers is, indeed, a great part of travelling in the Rockies, and the pluck with which the ponies breast the rushing icy water, and the skill with which they keep their footing, add pleasure as well as excitement to the experience.

The next day we marched up the left bank of the Saskatchewan and presently, rounding the base of Mt. Wilson, got our first glimpse of Mt. Amery. From the S.E. Mt. Amery looks a slender snow-capped rock tower. But by the time we reached the junction of the Alexandra its true outline became more apparent as an immensely solid bastion of terraced rock, whose steep concave northern face rises well over 6000 ft. from the flat valley of the Saskatchewan, crowned by a low gable or pediment of snow rising only a few hundred feet from the summit plateau: E. and W. it descends equally steeply into narrow lateral valleys. From the photographs which had been kindly supplied to me by Mr. Bridgeland, of the Canadian Survey, it seemed as if every attempt, whether by the flanking buttresses of the northern end or further along the main eastern or western faces of the mountain, would, sooner or later, bring us up against an impregnable band of cliff or an overhanging icefall. But it looked as if at the head of the western valley it might be possible to get on to the snowfield which forms the southern slope of the mountain. Accordingly with this plan in view we camped about 3 miles up the Alexandra at the junction of the torrent which comes down from this valley.

At 4 A.M. on the 20th Feuz, Meredith and myself pushed up the valley. Four hours going through thick timber and gravel flats brought us to a point sufficiently high up to see that there was no possible way from the head of the valley on to the snowfield. A tremendous amphitheatre of black cliff, overhung with glacier coming steeply down on all sides, made it

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magnificent as scenery, but useless for our purpose. So we fell back on a study of the long western face, and presently Feuz declared that one of the ribs descending from it seemed more broken up than the rest and might offer a line to the summit ridge that was not completely barred by the last two most formidable tiers of cliff. So we breakfasted and discussed whether we should go back and bring up bivouac kit for an attempt next day, or start at once in spite of the fact that it was snowing hard above and the weather looking anything but pleasant. We came to no decision, but began drifting up the long slope of guarding screes. An hour later we roped where our ridge and the one next to the N. of it almost touched, making a cleft which opened into an amphitheatre which further up opened out into another even more impressive one. We traversed by shale bands into this lower amphitheatre and then back again to our ridge and so, by short steps of abrupt rock and zigzagging on shale ledges, made good progress till, about 12.30, we found ourselves up against the second and most formidable cliff band below the summit. On our own ridge the cliff cut us off abruptly. There seemed no feasible way out to the right, while to the left the cliff extended in a semicircle round the amphitheatre, black and forbidding, festooned with immense drip icicles and coated with vast sheets of glaze. Happily, just in the angle where our ridge joined enough snow had lodged on the drip ice to make a feasible chimney of 70–80 ft., which proved the key to the whole situation. More shale and another steep ice chimney with a traverse out to the left by good rock brought us to a broad shale slope forming the summit ridge (about 10,100 ft.). A raging blizzard hid everything from view and more than once nearly blew us off our feet. But there was no point in turning back, so we turned left up to where the shale joined the snow, and so on to the sharply defined but easy rock ridge leading to the final summit (about 2.45 P.M.). On a fine day Mt. Amery must offer a magnificent panorama of the main range which, from Forbes to Athabaska, curves round it. But a few hundred yards in occasional glimpses through the driving snow was all we got, and five minutes at the top to build our cairn was more than enough. The descent was uneventful but slow, as the snow-covered rocks invited cautious going. Then came endless screes to run and glissade, a tiring business for a first day out; and to find, when we thought we had nearly reached bottom, that there was an impossible cliff enforcing half an hour or more of traverse on scree, was vexatious to flesh and

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spirit. However, at last we reached the gap by which we had come up, ran down the rest of the screes, and at 7.30 had our first reasonable meal among the trees. We pushed down the valley at 8, but soon decided that crawling and stumbling about by candlelight in the wood most of the night was not worth it. So we lit a fire and lay round it. The ground was wet and it drizzled all night, but one could always warm and dry one side, doze and then warm up the other.

On the 22nd we pushed up the valley of the Alexandra to the foot of the Alexandra Glacier and then to the right up the Castleguard River, finishing with a steep pull up to Castleguard Meadow. Some day Castleguard Meadow may become one of the chief tourist centres in the Rockies and boast its mammoth hotels, golf links and all the rest of it. But let me describe this mountain paradise as it is to-day, a week's journey from anywhere. The 'meadow' itself is an open valley or glade, 3 or 4 miles long and a mile wide, running roughly N. and S. at an elevation of 7000 ft. A few plantations of spruce are dotted here and there, and on its southern edge the meadow gradually merges into the dense forest of the slopes below. But for the most part it is covered by short heather and every kind of springy, cushiony herbage. At the end of August there were few flowers except Michaelmas daisies. But earlier in the year there must be abundance, not only of the white flower of the heather, and of a dwarf rhododendron—cousin to the alpenrose—but of columbine, purple larkspur, anemone and other Alpine flowers. Down this pleasant meadow runs a stream, in cold weather a clear rippling brook, when the sun melts the glaciers a powerful turbid torrent, which at its southern edge divides and falls in two picturesque waterfalls into a canyon, through which in a series of further waterfalls it reaches the Castleguard Valley 1500 ft. below.

My tent was pitched among the trees just beside the two topmost waterfalls. From it I looked S. over the steep wooded slope and the length of the Castleguard Valley at a series of lovely snow peaks, most prominent among them three summits of the Lyells, which with their folded mantle of snowfield and glacier recalled Monte Rosa as seen from above Zermatt. Then to the right, across the valley, the open view is blocked by the immense mass of mountain whose highest point is Mt. Spring Rice, a tremendous dark grey wall reaching up to the sky, its darkness and horizontal effect only intensified by a broad white band of hanging glacier along its whole face, and by the bold vertical steepness of a tower-like peak, the

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Watchman, standing in front of it. Turning to the right again beyond this overhanging barrier the eye finds relief in looking down on to the summit of the Thompson Pass, with its lakes nestling close under the foot of The Watchman, and into the valley beyond with its far distant glimpse of the Selkirks. Then the sky is broken again by the soaring ridge of Mt. Bryce, the first part of it not unlike the great Mischabel ridge in the Pennines, the last a most formidable-looking tusk of white. Then relief once more in a low white saddle, an edge of the Columbia Ice-field, and then the castellated rocks and long snow shoulder of Mt. Castleguard itself. Thence, northwards, by lower ridges, lapped over by tongues of glacier, to the lofty broad peak of Mt. Athabaska and boldly serrated ridges above the Saskatchewan Glacier into which the meadow merges at its upper end. Last of all, closing in the meadow on its eastern side, is a series of four rock pyramids, in ascending scale but almost identical in outline, recalling the old step pyramid at Sakkara, not only in shape, but also in warmth of yellow and rose colouring as they light up with the evening sun.

The 23rd was a day of heavy rain and snow, and on the 24th Wheeler and Meredith unfortunately had to leave us. Feuz and I climbed Castleguard to take photographs and make plans. The peaks I had specially hoped to climb in this region were Saskatchewan, Columbia, and above all Bryce. Neither the 12 miles across the ice-field to Columbia nor the rocks of Saskatchewan were immediately inviting with all the fresh snow about, so we decided to fill in time by crossing over the Thompson Pass and reconnoitring Bryce from the S. This magnificent peak was climbed in 1901, along the whole length of its northern ridge from above Thompson Pass, by that tremendous pair, Outram and Christian Kaufmann, a feat that no one has ventured to emulate.[2]

Accordingly, on a glorious morning (August 25) we descended, with all our ponies and a few days' provisions, into the lower Castleguard Valley and thence climbed up, past the forest-framed deep greeny-blue mirror of Lake Watchman, to the summit of Thompson Pass (6700 ft.), where we lunched on the banks of the paler blue-green Cinema Lake, enjoying a panorama little inferior to that from Castleguard Meadow itself. From there an old trail, cut by Wheeler for survey purposes years ago and not used since, led down on the British Columbia side into the deep and narrow valley of the Rice Brook. This we followed, not without difficulty in places, to where it came

[2] *A.J.* **21**, 464–75.

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to a complete end at the head of a steep canyon by which our torrent discharged itself into the Bush River, one of the main tributaries of the Columbia. Next morning Feuz and I started off, loaded up with three days' provisions and some sleeping kit, to reconnoitre Mt. Bryce. Four hours' climbing up very steep grass and hard scree, with a sporting chimney or two to defeat such cliffs as we could not circumvent, brought us to the tree-line, where we selected a suitable spot to bivouac, with glorious views back across the valley at the cliffs of Spring Rice and at White Rose and a whole wilderness of nameless peaks W. of the S. fork of the Rice Brook. In front of us we could just see the summit of Bryce. An hour's climb brought us on to a moraine from which we had a splendid view of the whole S. face of our mountain.

In front of us was a great amphitheatre of rock curtained by two mighty ridges which converged on the right or S. angle of the final summit pyramid, whose S.W. face is a sheer wall of rock, its S.E. face a steep, very steep, snow and ice slope with patches of rock outcrop. From this S.E. face a tongue of snow and ice cuts the right-hand ridge and descends into the amphitheatre, broadening out into a steep glacier which presently spreads itself over the flatter valley floor. The right-hand ridge looked difficult of access, but two feasible routes suggested themselves. One was across the lower glacier and up the banded rocks of the main wall of the amphitheatre to the upper ice tongue and so on to the N.E. summit face. The other was by the left-hand or S.W. ridge. This merged into the impossibly steep S.W. face, but the field-glass showed snow patches which indicated a probable traverse to the right towards the ice tongue. It was a longer route, but free from risk of falling stones, so we decided in its favour.

We were off at 4.30 on August 27 by a bright but small moon and trudged steadily across to our ridge (1 hour), then for 2¼ hours along it, and breakfasted (8.45) by a patch of snow where the ridge is highest. From here the ridge runs almost level till just under the final pyramid. For the next hour we scrambled or balanced along the top of what was just a wall of loosely piled rock, nothing like so well laid as a stone wall on Dartmoor, but dropping down 2000 ft. to the glacier on one side and nearer 7000 ft. into the Bush River Valley on our left. The views from this aerial path across to Bush Peak and all the virgin district of which it is the centre, and up towards the S.W. face of Columbia, were magnificent, as was the view back southwards towards Mt. Freshfield. But anxiety about the shaky structure under our feet left little

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leisure for contemplation. In places one was literally afraid of bringing the whole ridge away. At one point on the return journey the top of the ridge in the shape of a block measuring a yard or more each way slid from under me as I was sitting on it, and left me standing more or less in the space it had vacated. Only at the last where it joined on steeply to the face was there really difficult climbing, and here the rock, though still treacherous, was a good deal better. A final chimney brought us out, as we had hoped, at a ledge which, if not quite all we had imagined, still provided a feasible traverse to the right in three sections of 60–80 ft., each involving getting round a corner, interesting but not difficult. But these proceedings took time, and it was nearly 11 by the time we were on the snow near the head of the amphitheatre. We worked diagonally to the right and at the end of an hour were up on the snow saddle at the back of the final pyramid about 900 ft. below the summit. We made up the steep snow a little to the left of the middle patch or patches of rock, crossing the schrund with some care, the new snow not adhering too well to the ice beneath, and then bore across to the rocks. We went up these and then followed a well-defined snow arête of some 200 ft. joining the crest-line at a point perhaps 150 ft. below the final summit. The crest to our right, just below a sharp nick in it, was fantastically corniched over to the W. One great piece was like a huge maple leaf of snow curling boldly over on the far side; above the end of our arête the corniche reversed and overhung on our side. Progress up the arête was slow. The new snow was very deep, and each step required a lot of testing. Presently we reached a point where it could not be trusted and each step meant flogging away a lot of snow and then cutting steps into the ice.[3] The work got heavier and heavier, and about 1.30, when we still had

[3] See Outram, *In the Heart of the Canadian Rockies*, p. 421: 'So steep was it (the S. slope) that it seemed marvellous how the glistening curtain of soft and yielding snow, massed on a slippery substratum of glare ice, could cling at such an angle.' Kaufmann, working along the main N. ridge, took the risk of not cutting through into the ice. But Outram's account shows that it was a great hazard, and on our steeper line of ascent, and with fresher snow, it would have been too great. On the other hand, reading Outram inclines me to the view that once on the main ridge, where the corniche overhung to the S.E., the going on the harder N.W. slope of the crest would have been better, and that this would have enabled us to get up more quickly than Feuz anticipated.

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Photo, L. S. Amery.

Mt. BRYCE. S. Face.

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Photo, L. S. Amery.

Lake "ULTRAMALIGNE." From Summit of "Aa."

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another 100 ft. of our arête and 150 ft. of the final ridge to do, Feuz said it was no good going on. It would take another 2 or 3 hours to cut up to the summit, and it wasn't sensible to run the risk of negotiating our rotten ridge after dark, and possibly in bad weather, for the mere technical credit of completing an ascent which we had in fact proved, and when under better snow conditions we were not 20 minutes from the top. There are things one wouldn't have put up with in warm-blooded youth, 'Consule Planco,' but which middle-aged married men accept as sage counsel. But it took some days to shake off the gloom of that retreat. As it was, we were down in easy time and were in bivouac by nightfall.

On the 28th we made our way down early, trying a new route through the forest so as to avoid the terrific steep slopes and the cliff walls of our ascent. However, the wood was steep enough and not unprovided with cliffs. Along the edge of one of these which ran unbroken for some distance we followed a game track which suddenly came to a dead stop. Just opposite was the top of a tall dead spruce growing parallel to the cliff and not more than a yard from it, freely scored by bears' claws—the obvious ladder by which Bruin had solved the cliff problem. So we followed the wise bears and were presently rewarded by finding ourselves in acres of blueberries and raspberries, interspersed with the brilliant but unedible scarlet oval berries of King Solomon's Seal. And so back to camp. As no other peaks were accessible from this deep valley except by more trail cutting than we could afford time for,[4] we packed up and by forced marching were back at Castleguard Meadow that same night. The 29th, a perfect day, was given to taking our ease. Part of it was spent in a luxurious hot bath constructed by excavating a suitable hole with an ice axe and liming it with my waterproof ground sheet. To economise hot water all my washing joined me in the bath; the glacier stream alongside provided abundance of cold water to rinse us both. We then lay out in the sun, the washing festooned on bushes, myself in a natural armchair in the heather, blinking lazily at the strenuous mountain-tops and dipping, with an equal sense of contemplative remoteness, into the battles of the Iliad. The afternoon was given to the leisurely reconstruction of my torn and tattered coat with material secured by cutting the continuations off my breeches.

[4] A trail could easily be cut down into the Bush River Valley, and so open up a wonderful new mountain field.

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These days of idleness in camp between climbs and marches are always among the most treasured of memories.

Next day we were off before dawn to cross into Terrace Valley and tackle Saskatchewan. We made our way up the first line of cliffs at about the same point as Dr. Thorington in his first ascent (ours was, I believe, the second), but struck straight up from there to the W. summit—a route which avoided the tiresome shale terraces of Thorington's route and gave us some quite good rock work—and so along to the higher, E., summit (1.30 P.M.). The view was superb. Immediately facing us to the S. rose the immense western rock wall and low snow gable of Mt. Amery, our own line of ascent clearly traceable and looking absurdly vertical. Behind it soared the snowy pyramid of Mt. Forbes, then, peak on peak, the Freshfield group, the Lyells, Alexandra, Spring Rice, Bryce—our turning-point looking about a yard below the summit—the towering white mass of Columbia standing out of the great plain of snow spread between us, The Twins, Athabaska, Clemenceau, Alberta and a score more to the W. and N.W. Eastwards the eye rested only on occasional glaciers and snow peaks, for the rest on a vast confusion of rocky peaks and of deep valleys leading between them towards the foothills and the prairie. The descent was easy, but the march home long, and we had been 17 hours on our feet before we found our way into camp by candlelight. How good hot soup can be under those conditions!

The 31st was set down for a day of rest preparatory to a midnight start for Columbia. But the weather broke badly in the afternoon, and by next morning it was evident that it had made up its mind to stay bad. As I had to be at Jasper, six or seven days away, by the 10th, and wished to do a little climbing round Lake Maligne, the only thing was regretfully to abandon Columbia, set off northwards, and hope that the bad spell would be over in time to leave three or four days at the Maligne end. So in pouring rain we retreated down the valley, camping for the night at our old camping-ground at the foot of Mt. Amery. On September 2 we rode up the N. Saskatchewan in the teeth of an icy blizzard and camped early (no other feed being available within the day's march) at the edge of a broad shingle flat at a spot known as Rock Island Camp. A long day on the 3rd took us up the N. Saskatchewan and then to the N.E. and N. up to Nigel Pass, and so over into the upper Brazeau Valley. This is a beautiful route, but the splendid views we should have had of

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Saskatchewan, Athabaska, and other peaks and snowfields were marred by snow and drizzle. The same was the case the next day when we crossed over from the Brazeau into the Jonas Valley and from there in a snowstorm over a ridge 8000 ft. high into the Poboktan Valley—an experience more akin to Antarctic exploration than to summer mountaineering. After that the weather improved, and the Poboktan Valley, with its softer landscape, offered a pleasant change. On the 5th we continued down the Poboktan Valley and then turned N. up the valley of the Poligne, a clear mountain stream coming down from the Maligne Pass. On the way I took a snapshot of a porcupine who had climbed up a small tree and was very reluctant to present his face to the camera. Stirring him up with a branch was a dangerous proceeding, for the porcupine does actually shoot his quills with great force for a distance of two or three yards, the impulse being given by a flick of the base of his stumpy little tail. The great feature of the landscape on the pass, however, were the marmots, much larger than their Swiss cousins and much tamer, looking for all the world, as they sat upright, like narrow little yellow barrels with black lids (their heads) and two black marks (their paws) in front. Of other game, I might mention incidentally, we saw on our tour plenty of goats, one flock of a dozen or more mountain sheep, a few moose, 'elk' and black bears, and some very large tracks of grizzly; happily, as we were unarmed, we did not run into any grizzly himself.

The valley of the Maligne River runs down from Maligne Pass northwards parallel to Maligne Lake, separated from it by a range of peaks of which we knew the northernmost, Mts. Unwin (10,500 ft.) and Charlton, and we believed also the southernmost, Mt. Mary Vaux (Mr. Howard Palmer's Rock Tower),[5] had been climbed in the last few years. Scrambling 200–300 ft. above the pass, Feuz and I got a splendid view of the back of the whole line of peaks, from Mt. Unwin to Rock Tower. Half-way between them was what looked as if it might be a fine rock summit, nearly as high as either of them, not indicated on our map. A long easy ridge seemed to lead quite close under it from our side. So we continued some 3 miles down the valley to what is known as Cut Tree Camp, prepared to spend a day or two on this side of the range.

On the morning of September 6 Feuz and I scrambled up the grassy slopes above our camp for the ridge we had seen

[5] *A.J.* **36,** 101, footnote; illustrations 102, 103, 107.

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from above the pass. We bore rather too far up to our right and, too lazy to descend 200 ft. into a gully and up again, kept on up, to the right of a bold rock peak, and so into a steep amphitheatre filled with a small glacier. Getting out of this on to a saddle between this lower peak and the main line of summits proved quite difficult and tricky climbing in places, the holds all sloping downwards and largely glazed. From the saddle it was easy rock scrambling and new snow up to a small peak (a first ascent such as it was) from which we looked straight down nearly 5000 ft. into the green waters of Lake Maligne, and across at a perfect sea of snowy peaks extending back from the E. shore of the lake and from its S. end. It was a magnificent panorama.

Immediately S. of us the ridge dropped and then lifted again to the broad snow shoulder of Rock Tower with its stern black cliffs dropping sheer towards the lake. Northwards the ridge sank and then rose, bold and very sharp, between a very steep W. face and a stupendous vertical E. face, to a fine pointed peak, very little, if at all, short of Rock Tower in height. Passing the saddle, which we might have reached two hours earlier if we had not gone out of the way, we tackled our peak. The first few hundred feet provided the best rock climbing I got this season; the rest was steep but easy. The summit itself was a sensational wedge or tusk of snow jutting right out on the lake-side. There was no evidence of either Mr. Palmer's or Dr. Strumia's activities, so we put up our cairn and our claim to the first ascent of a truly delightful peak, which I shall provisionally call 'A2' pending an official christening. The N. ridge of our peak dropped equally steeply to a long hump on the ridge between our peak and Mt. Charlton.

Below it, nestled in a shelf completely concealing it from almost every possible point of view, lay a smaller lake whose deep ultramarine contrasted vividly with the jade green of the main lake below. Two glaciers fell into this lake, detaching small icebergs which floated about like bits of white curd. When we got to Lake Maligne everyone was greatly excited over this lake, of which they had never heard, and hailed us as its discoverers. But I have since learnt that Mr. Palmer saw it from Mt. Unwin, and that it has been photographed from the air. From the lake below there is nothing, no overflow of any kind, to suggest the possibility of such a lake, or, indeed, of room for it.

Wonderful as were the near views, the real wonder was the view westward. Below was the lovely valley of the Maligne

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River; then yet another, behind which, right through the heart of this grey limestone country, ran a ridge of red quartzite of which we had already seen some on the Brazeau and the Poboktan; then the deep trough of the Athabaska; and then, beyond and above all, the whole line of the Rockies for 200 miles from Mt. Forbes to Mt. Whitehorn beyond Mt. Robson. Saskatchewan, Athabaska, Columbia, The Twins, Alberta, Clemenceau, all stood out very clearly. But Robson was clearly monarch of all, and through my glasses I scanned the great eastern ice wall up which we climbed, and thought I could identify the very spot where we turned back—just twenty years ago to within a day. Of the nearer peaks Mt. Fryatt stood out very finely, and Mt. Edith Cavell, with some of the Tonquin rock peaks, just showing to the left of it. Tearing ourselves away reluctantly, we scrambled rapidly down the rocks, then down long snow slopes and steep descents of soft glissading scree and so into the warmth of the valley with its intoxicating aromatic smell of dwarf balsam and other herbage, to tea and a dip in the clear icy river.

Next day we were to have tried Unwin from the W., but it snowed heavily all day, and on the 8th we retreated down the valley and reached the N. end of Lake Maligne in the afternoon, camping near the comfortable chalet put up by the Canadian National Railway. There I found a brother of 'Curly' Phillips, whom I had met in 1909 near the site of what is now Jasper on his return from his famous, and all but complete, ascent of Robson, and 'Curly' himself arrived next day. The 9th opened wet, but cleared about 9 A.M., and Feuz and I went down the lake in Phillips's motor boat. Lake Maligne is about 18 miles long and perhaps 2 across, narrowing half-way to a hundred yards or so. The northern half, bordered by sloping woods and with pleasant peaks set back, has a quiet charm of its own but no sensational effects.

For these we waited till we came to the Narrows, beyond which lies the inner lake, and felt like the Queen of Sheba: the half had not been told us. For 8 or 9 miles on each side peak after peak of every type rises 5000 ft. and more, straight from the jade-green waters. In places the dense dark green forest of spruce climbs up a thousand feet or more. In between on the 'slides' dwarf willow and other smaller growth in autumn foliage formed broad vertical bands iridescent with every hue from pale blue-green to bronze and purple and rose pink. Above towered the dark rocks broken by snow gullies and hanging glaciers or showing snowy shoulders. Unwin

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and Charlton are most impressive from across the lake; our own summit 'A2' soared upwards, a slender, tapering wedge against the sky-line; Rock Tower faced us with its immense continuous cliff. On the E. side a graceful peak with knife-edge ridges, slanting in one unbroken slope almost down to the lake, which I christened Mt. Diamond, led on to a series of fantastic buttressed pinnacles, like seated Egyptian statues, of which The Thumb and Mt. Warren are the chief. At the S. end of the lake the valleys run up to glaciers and towards a maze of peaks of which the chief, Mt. Brazeau, tops the 11,000 ft. mark. Here on a wooded flat the Canadian Alpine Club propose to hold their summer camp this year, and I can give no better advice to anyone who has a chance of going than go.

Feuz and I had hoped to climb The Thumb, but just inside the Narrows the motor boat suddenly struck, and by the time it resumed work it was too late to do more than scramble up 2000 ft. or so and take photographs. On the 10th I had to be in Jasper for the night train to Edmonton. But as the morning opened fair we thought we could still do Mt. Sampson, a fine bold peak of 10,000 ft. rising from the E. shore just this side of the Narrows. Once again the motor boat failed, and finally we paddled ashore and climbed up the nearer and slightly lower Mt. Leah, reaching the summit after an easy scramble at 12.30. A last view at all the glories of the upper world and then we raced down, signalled across the lake to the boat, happily working again, and at 3 o'clock were on our ponies and tittuping down the valley towards Medicine Lake. To the far end of Medicine Lake, an expanse of quicksand after a dry summer, was said to be 15 miles, but it must have been fully 20. Here we found the outfit, which had preceded us, and I bade good-bye to my good comrades. A mile farther on a car was waiting for me, and we bumped in the dark over 10 miles of villainous track and then another 10 miles of excellent road, reaching Jasper at 10 o'clock. A shave and a bath in a kind friend's bungalow, and then I stumbled into the train. Next morning an obliging friend smuggled me out of the station in my tattered and stained climbing kit to breakfast in his home, while my respectable clothes, sent round from Banff, were discovered and taken to the hotel. Thither I was presently smuggled myself, emerging from my room an hour later as a respectable English politician, to join the annual convention of the Canadian Chamber of Commerce and address them on the subject of Empire Trade.

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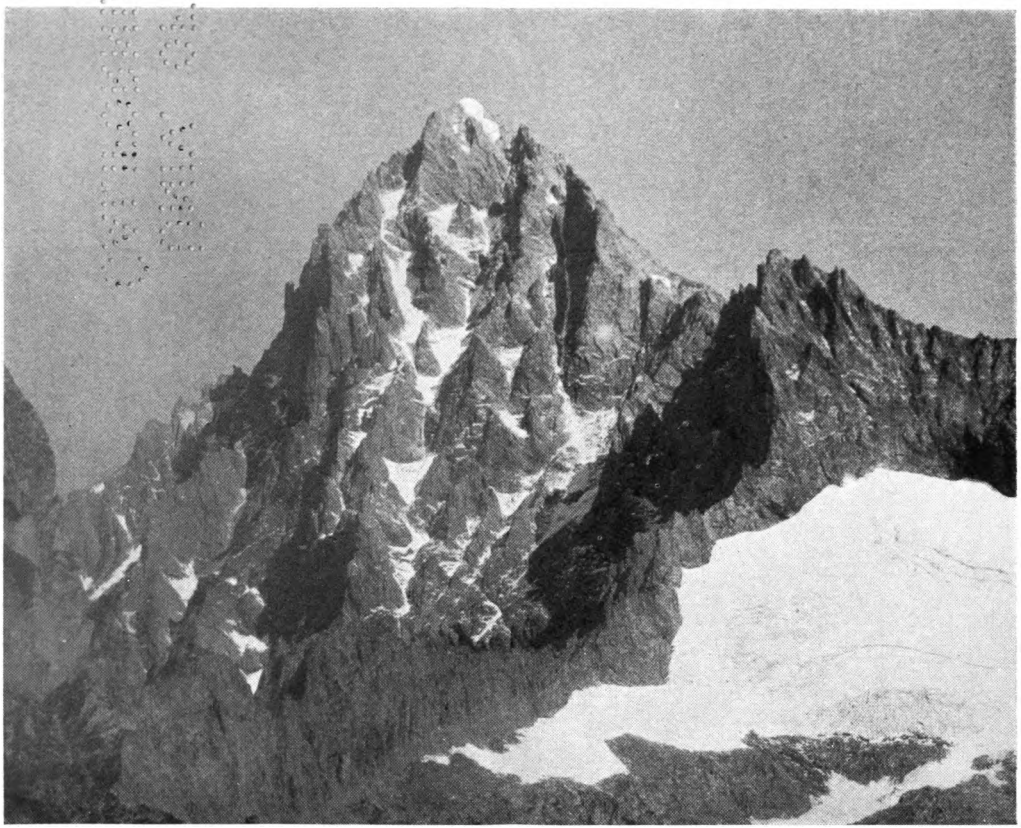

Photo, P. Montandon.

BIETSCHHORN. S. Face.

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Bietschhorn.

By HANS LAUPER.

I. *The South Face.*

THE Bietschhorn, 3953 m., is, to my mind, the finest peak in the extensive group of mountains separating the Loetschental from the valley of the Rhône. Ever since I first saw its sharp-pointed pyramid I have felt a very strong attraction, which has only increased since it has become my good fortune to climb the mountain by all its different ridges.

The finest climb which the Bietschhorn provides leads over the *S., or Bietschtal, face.* This climb has, to my knowledge, only been accomplished four times. The S. face, nearly 1000 m. high, is furrowed by two conspicuous couloirs. But these couloirs are interrupted by several perpendicular steps, and not infrequently these black cliffs are covered by a sort of frozen waterfall. The right hand or *E. couloir*, in its upper part merely a steep narrow gully lined with ice, lies close to the S.E. arête, the ridge connecting the Bietschhorn to the Thieregghorn. Up this couloir Professor Schulz, with Alexander Burgener, made their attempt in 1883.[1]

The *W. couloir* is a broad, snow-filled gully, descending straight from the summit to the little glacier at the S. foot of the Bietschhorn, but is cut off by precipitous rocks at its lower end, barring direct access to the S. face. The rock-ridge or buttress between the two couloirs is again broken up by a number of minor couloirs ; the gutters and ribs between these gullies are adorned by a good many huge fangs or rock towers. Thus the Bietschhorn S. face presents an extraordinary appearance, wild and unassailable, which I cannot compare to any other mountain face I know.

On July 2, 1922, my friend Willy Richardet and I ascended the rough slabs of the '*Im Rämi*' with the intention of climbing the Bietschhorn by its southern or Bietschtal face. The weather was fine, but the day before we had arrived very late at the Jaegisand, 1837 m. (*Siegfried*), at the head of the Bietschtal and had bivouacked there *en pleine étoile.* Our sleep had been short, the ascent of the desolate *cirque* of the Rämi had been tiresome and had already cost us 4 hrs. So

[1] *Cf.* S.A.C. *Jahrbuch*, xix. pp. 3–23.

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when at last we reached the little glacier at the S. foot of the Bietschhorn, it was with a feeling that we were not as fresh as we might have wished to be in view of the great wall looming above us.

Captain Farrar's account ('A.J.' **18,** 474–478), written with the accuracy to which he has accustomed us, and an examination which I had made from the Thieregghorn, had taught me that the key of the ascent was the broad snow-filled W. couloir. This had to be attained by a series of traverses.

Therefore, after a short rest, we crossed the little glacier toward the E., where a convenient ledge leads up from the surface of the glacier to the crest of the main S.E. ridge. At 7.5 A.M. we took to the rocks. Shortly before reaching the crest of the ridge we turned off to the left, N.W., along some ledges and easy rocks, ascending only slightly; then rounding a corner and *descending* a short wall we reached the lower end of the E. couloir. Before continuing, we allowed ourselves a last survey of the face, now in full view. It looked very savage with all its huge teeth and towers, which in the clear light of the morning sun contrasted strikingly with the deep-cut gullies and couloirs furrowing the face in every direction. The work ahead promised to be severe. But as we entered the E. couloir which at its lower end is rather broad, and then coated with hard snow, the mood to climb came on us; the tedious walk up the Rämi was forgotten at once. Skirting the E. bank of the couloir we ascended for two or three rope-lengths, then, as quickly as possible, cut steps across the broad channel to a sharp snow-crest and at once, slightly *descending*, traversed another gully to a well-defined snow-saddle, situated at the lower end of the rocky buttress separating the E. from the W. couloir. Just W. of our saddle there was a big tower sticking out of the face, pierced by a hole, like the eye of a needle, through which we could see the snow-filled W. couloir.

From this saddle (point '1' on sketch) we attacked the next rocky steps direct. Bearing a little to the left, W., we gained the gap above the tower with the window, then turned back toward the right, E., and scrambled up over convenient ledges and easy steps, thus reaching the left bank of a couloir cut off above by a black cliff with a frozen waterfall (point '2' of sketch).[2] The next abrupt step was climbed just to the left, W., of the frozen waterfall, Richardet now in front and leading

[2] This is the first of the two waterfalls mentioned in Captain Farrar's account (*A.J.* **18,** 477), and the couloir is Captain Farrar's couloir No. 3.

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in brilliant style. First we climbed straight up, then rounding a rather awkward corner attained the couloir again above the black cliff. Keeping always on its left bank, we mounted to the foot of another steep wall. Here Captain Farrar, whose route we had now followed for some time, took a left-handed course, thus gaining the broad W. couloir. The buttress is not very broad at this height, and, as we wanted to cast a glance into the E. couloir, we crossed the head of our couloir, cutting a few steps and landed thus in a conspicuous snow-saddle or balcony on the top of one of the eastern pillars of the buttress (point '3' of the sketch). The view into the very narrow and steep E. couloir, at this point more of an ice-clad chimney than a couloir, was most impressive. We could very well imagine the difficulties encountered by Professor Schulz in 1883, when he and Alexander Burgener tried to force their way up through that funnel. The first party to make the ascent of the Bietschhorn by the southern face, Drs. E. and O. Zsigmondy, L. Purtscheller, and Professor Schulz, on September 2, 1884, had arrived on the same saddle when stone-fall forced them to make a hasty exit out of the E. couloir. The same happened to the third party, Professor Dr. H. Lorenz and Eduard Wagner, August 24, 1901, who followed very closely the line of ascent of the first party.

The point on which we now stood is about the level of the S.E. shoulder, *i.e.* 3520 m. As we knew that a good deal of work still lay ahead of us, we did not linger too long, but soon retreated in our steps to the rock wall. A deep chimney led upwards. Bearing slightly to the left, W., over firm but steep rocks, we made good headway, till climbing a very steep crag we at last got on to another saddle or gap, this time on the western crest of the rocky buttress separating the E. from the W. couloir (point 'F' of the sketch). In other words, we found ourselves on the E. bank of the great W. couloir, the upper bay of which lay right before us, blocked above by the characteristic black cliff with the 'frozen waterfall' (*cf.* 'A.J.' **18**, 477). Here we allowed ourselves a rest from 11.40 A.M. to 12 o'clock, then we crossed upwards over the steep E. bank of the W. couloir, following a ribbon of good firm snow which brought us to the floor of the couloir (point 'E' of the sketch). The snow was in very good condition, and soon after leaving the notch on which we had rested, we stood beneath the black cliff (point '4' of the sketch).

We knew that our predecessors had circumvented this cliff by bearing far out and to the E., Captain Farrar going as far as the main S.E. arête. We preferred to attack the obstacle

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direct. Richardet, once more in the lead, cut steps up through the floor of the gully of the frozen waterfall for some 30 ft. Then we were able to bear to our right on to slabby rocks which we climbed until we could traverse back into the couloir. Immediately above the waterfall we re-entered the W. couloir, now quite narrow, crossed the couloir where it forks about 30 yds. above the waterfall, and ascended the rocks between the fork. Then a few steps to our right brought us on to the last bit of the main S.E. ridge, overlooking the Baltschiederfirn, which we followed right up to the summit. At 2.21 P.M. we shook hands on the top of the Bietschhorn. We thought that we were justified in feeling quite glad at our success in unravelling this intricate S. face of the Bietschhorn.

After a rest of half an hour we began the descent by the W. arête. There was much snow on it, and at this time of the day it was of course soft. As a matter of fact the conditions on the W. arête were so bad that a party, starting from the Bietschhorn hut on the Schafberg, had given it up and retreated when half-way up the mountain. But taking every precaution we attained the hut without mishap, 3¾ hrs. after leaving the summit. But even here we were not able to enjoy a well-earned rest! At midnight we were off again, as I had to catch the first train at Goppenstein in order to be back in town in time.

Captain Farrar, in his very detailed account in 'A.J.' **18,** 474–478, comments on the first ascent of the S. face by Herren Emil and Otto Zsigmondy, Ludwig Purtscheller, and Professor K. Schulz in 1884, and describes the line of ascent which he took when making, with Daniel Maquignaz, the second ascent, September 15, 1893. The route of the first party was also followed by the third, Professor Dr. H. Lorenz, A.A.C.Z., and Eduard Wagner, A.A.C.Z., in 1901. Professor Lorenz was kind enough to give me a detailed account of his ascent and to mark his line on a photograph. Through my dear friend, Monsieur P. Montandon (to whom all young Swiss mountaineers [3] seem to turn for advice and never in vain), I was furnished with two photographs on which Captain Farrar had marked for him the line of his (Farrar's) ascent. From a close study of all those accounts, and a comparison with the lines marked on the different photographs, I think that I am now able to understand the different routes taken by each one of the four parties.

After gaining the lower end of the E. couloir, the *first* and the *third* parties ascended the E. couloir until it becomes quite

[3] *And* the JOURNAL.—*Editor.*

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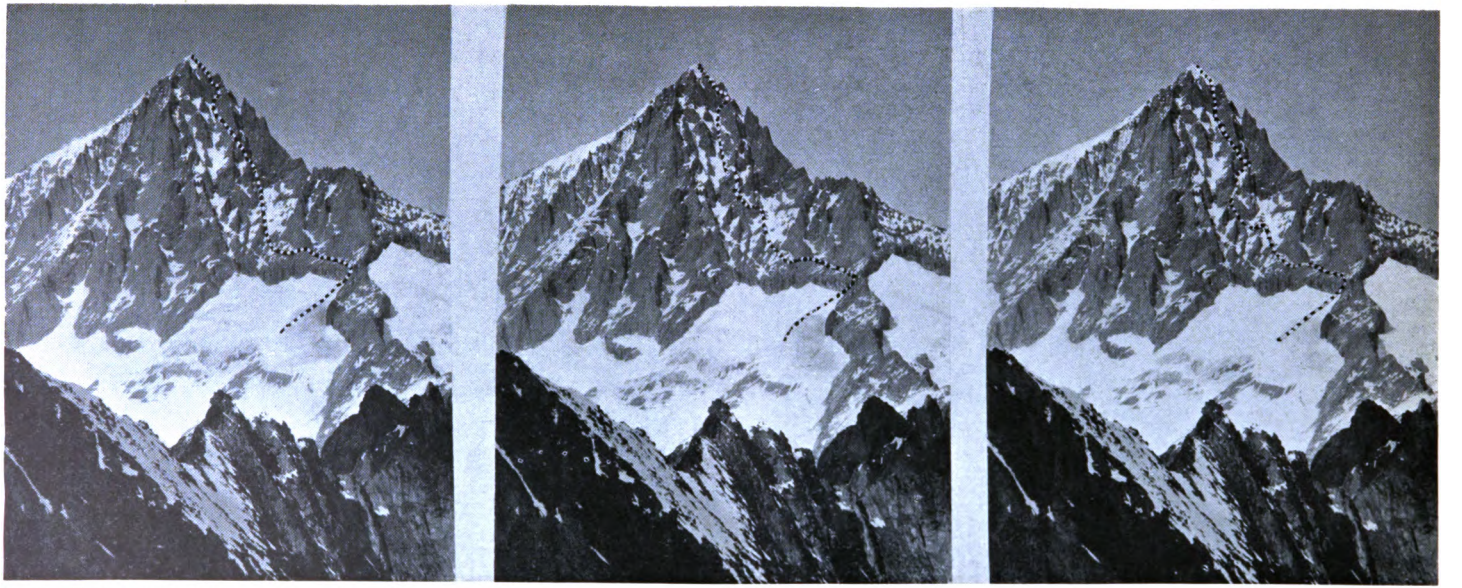

Photo, Herr Fankhauser.

Route of 1884 and 1901 Parties.

Route of 1893 Party.

Route of 1922 Party.

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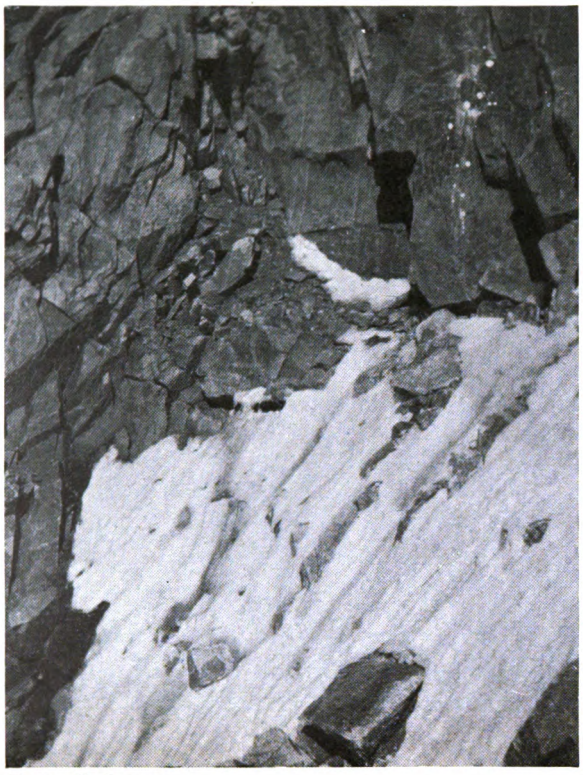
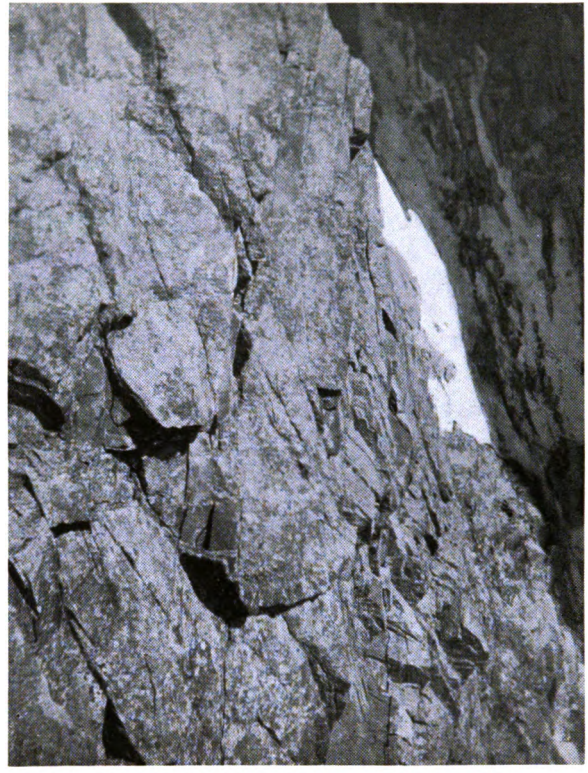


Photo, H. Lorenz.

Looking W. from P. 3 on Sketch, the scene of 1884 "mishap."



Looking down from P. 3 into the E. Couloir.

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narrow and very steep. At this point both these parties were forced by stone-fall to leave this couloir and to force the difficult rocks W. of this couloir in order to reach the snow-saddle marked '3' on the sketch. This point was also gained by our party, but we crossed the part of the E. couloir and ascended the buttress between the W. and E. couloirs by a series of traverses. The *second* party, Captain Farrar, with Daniel Maquignaz, followed the E. couloir a little higher up than we did, but not as much as did the Austrians. Then he also climbed to the crest of the buttress, thus reaching the left or western bank of this buttress below a black cliff with a waterfall (point '2' on the sketch). From this point, and up to near point '3,' his and our line of ascent are about identical. But while curiosity drove us over to point '3,' the snow-saddle mentioned above, Captain Farrar turned to the left, W., and descended from the western bank of the buttress down into the big W. couloir, which he followed up to the second black cliff with a frozen waterfall. From point '3,' the snow-saddle on the eastern bank of the buttress, the routes of the *first*, *third*, and *fourth* parties nearly coincide until the great W. couloir is gained (point 'E' on the sketch). In the upper bay of this W. couloir all routes converge for a short time. Then Captain Farrar took to the rocks of the S.E. ridge, in fact he got up to its very crest and thence crossed to the W., ascending slightly until he could gain the W. couloir above the black cliff (point '4' on the sketch). The Austrians, that is the *first* and *third* parties, turned this cliff also by climbing the W. slope of the main S.E. ridge. But they did not go as far as Captain Farrar did. The *fourth* party, Richardet and I, attacked the frozen waterfall direct, turning its upper portion only and keeping very close to the waterfall. Above this black cliff with the waterfall *all* parties seem to have taken the same route up to the summit.

While the *first* and the *third* parties suffered on different occasions from stone-fall chiefly because they followed the E. couloir or kept too close to it, neither Captain Farrar's nor our party met with any such experiences. Captain Farrar in a letter to me expressed the opinion that his route was less exposed to possible stone-fall than ours. I, of course, do not want to contradict an authority like him, but I am still inclined to think that our route, especially under the favourable conditions prevailing when we climbed the S. face, is as safe as any face climb can be. Previous to our climb I had spent the better half of an afternoon on the top of the Thiereggh-horn, which provides an excellent view of the S. face of the

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Bietschhorn. On that day both the E. as well as the W. couloirs were raked by stone avalanches, while on the buttress between the couloirs I did not observe a single stone to fall.

The S. face of the Bietschhorn provides extraordinary climbing. But anyone who wants to climb it ought to have a clear conception of the structure of this face, for once one has left the lower bay of the E. couloir it is difficult to keep one's bearings, as the many towers and teeth and the different couloirs and gullies are most bewildering so far as orientation is concerned. In addition, the climb should not be tried except on a calm day, as wind is apt to loosen stones. The rocks ought to be dry, and there should be enough snow to line the surface of the couloirs.

(*To be continued.*)

Bietschhorn—S. Face. (Explanation of sketch.[4])

G = little glacier at the S. foot of Bietschhorn.
G—A = line of ascent followed by all parties.
A = lower end of E. couloir.
A—B = E. couloir.
C—D—E = W. couloir.
E = upper part of W. couloir.
A—2--D--E Captain Farrar-Daniel Maquignaz route, 1893, marked with + + + +.
A—3—E route of I. party (Zsigmondy-Purtscheller-Schulz, 1884) and III. party (Professor Lorenz-Ed. Wagner, 1901).
A—1—2—3—E—H route of IV. party (Lauper-Richardet, 1922).
F = snow-saddle on E. bank of the W. couloir from where the I., III., and IV. parties entered the W. couloir.
1. Snow-saddle E. of tower pierced by a window.
2. Left bank of the couloir (No. 3 in Captain Farrar's account, 'A.J.' **18,** 477), which is blocked by a black cliff with a frozen waterfall. This waterfall is just right and a little above of 2.
3. Snow-saddle reached by the I. and III. parties immediately after leaving the narrow gully of the E. couloir (A—B).
4. Second or upper black cliff with a frozen waterfall, blocking the W. couloir (C—D—E). The route of the I. and II. parties lies between that of the II. (marked with + + +) on the right and that of the IV. party (marked ----) on the left of the sketch.

[4] By Herr O. Fahrni, to whom we are much indebted.—*Editor.*

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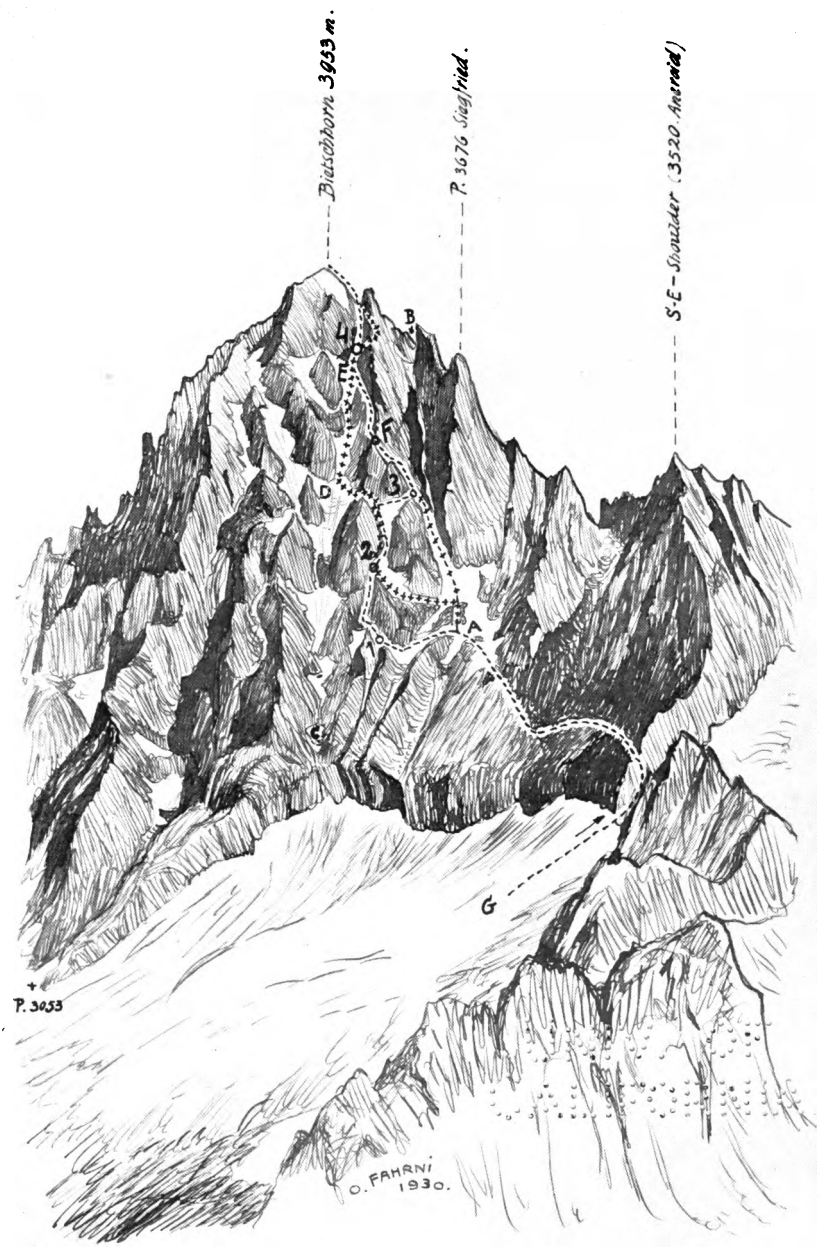

Drawn by O. Fahrni.

BIETSCHHORN. S. Face.

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The Mountains of Albania.

By C. M. SLEEMAN.

ONE September evening in 1926 our party found itself on the top of Ljubotin,[1] a mountain of the Shar-dagh range in Jugoslavia. We had reached this fine mountain (its name signifies the Thorn-shaped One) from Kačanik, a village some 20 miles N.W. of Skoplje, and had arrived at the summit just before sunset. Spread out before us was a great blaze of light, and far into the W. we saw range after range of hills stretching into what we knew must be Albanian country. We felt then that, apart from all other interests, Albania must be visited if only for its mountains.

Balkan mountain travel has its own peculiar fascination: of this we had already had some experience in several wanderings through the mountains of Jugoslavia, Bulgaria, and northern Greece; but, as investigation soon showed, the matter of attacking Albania was a tougher problem. The few travellers who have been through the northern parts of the country from Prizren to Scutari have given descriptions of magnificent Dolomite-like peaks rising up away to the N. of their routes, and there are some accounts of journeys made into the valleys and across some of the passes of the northern mountains; but all the available literature and the maps are vague and not very helpful from the point of view of mountaineering. In Vol. 17 of the Alpine Journal W. H. Cozens-Hardy has an article on 'The Mountains of Montenegro and Albania,' but, as he only saw the mountains of the latter country from across the Montenegrin frontier, his account is rather an inspiration to would-be travellers than a description of things done. However, his account of 'the inaccessible cliffs of a nameless Prokletija peak surrounded by all the ranges of the Accursed Mountains' is stimulating reading; also what he has to say about the difficulties which beset a traveller in getting to Gusinje at the foot of these peaks should be irresistible to anyone who likes little excitements on the way to the mountains. I shall give a list of some of the literature dealing with Albanian travel later on.

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[1] Our aneroid measurement made the height of this mountain 8090 ft.

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Albania forms a strip of country about 220 miles long and 70 miles across. Save for a region of plains along the Adriatic coast the whole country is hilly. A main range runs roughly from N. to S. along its eastern frontier. The Shar-dagh forms a part of this range which continues S. to the still higher hills of Korab. Continued S. past the Lake of Ochrida this range is prolonged in the Pindus Mountains [2] of northern Greece. In southern Albania in the neighbourhood of Berat [3] there is the massive lump of the Tomor Dagh. North of this in middle Albania the country is hilly, but has no conspicuous summits. It is not until we go N. of the Lim that we reach the magnificent wilderness of dolomitic peaks. These mountains build the southern end of the Dinaric Alps. South of the Drin we encounter serpentine and gabbro rocks and the scenery changes completely.

Probably the easiest way of approach to the northern mountains would be *via* Cattaro, Rijeka, the Lake of Scutari and Scutari; but as W. T. Elmslie and I had been spending the earlier part of the summer (1929) in northern Greece we arranged to meet L. A. Ellwood, the third member of our party, at Ochrida and to cross the Jugoslav-Albanian frontier near Struga on Lake Ochrida. This gave us the opportunity of travelling N. through a large part of Albania and seeing a good many places on the way. Incidentally I may mention that the Lake of Ochrida [4] is well worth visiting for its own sake. While the scenery of its shores is in no sense magnificent it has a peculiar kind of beauty which grows upon one by degrees, and is rather due to colour and atmosphere than to anything of a tangible nature. The shores are neither steep nor forest-covered and the hills only rise gently away from the lake; but the sandy red rock gives a very distinctive brick-red colouring, and this warm colour combined with the heat haze over the dead calm waters made one of the most beautiful pictures of lake scenery I have ever beheld. We spent a very pleasant

[2] So well seen from Ljaskoviky on the Koriča-Santi Quaranta road.

[3] Captured by the Italian 'Valona' troops in July 1918, recaptured by the Austrians, finally abandoned by the latter on the Serb advance of September-October 1918.—*Editor.*

[4] While entirely agreeing with Mr. Sleeman, we should like to point out that Lake Prespa, to the E. and only separated from Ochrida by a high ridge, is even more beautiful. The S., E. and W. shores of the former were occupied by the French, the N. shore by the Bulgars in 1916–18.—*Editor.*

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couple of days in Ochrida bathing in the lake and visiting the monastery of Sveti Naum [5] down at its S.-E. corner. Then, on July 19, we hired a motor car in Ochrida and set out to cross into Albania, hoping to reach Elbasan, about 52 miles away, the same evening. At Struga we encountered the last outposts of the Jugoslav gendarmerie, and here we spent several hours of a sweltering afternoon fussing over formalities which no one seemed to understand. At last we were able to proceed, and in a short time we came to the Albanian frontier. There we passed under an odd but appropriate structure built over the road—more like a triumphal arch than anything else; and then another long wait ensued while we satisfied the Albanian guards. It was already beginning to get dark and it was late at night before we got to Elbasan. We had only heard of the existence of the road when we were in Ochrida, and a very convenient route it is, with a surface not too bad compared with most of those in the Balkans. We had contemplated doing this section of our journey by mule, and had read in the 'Admiralty Handbook of Balkan Travel' of most hazardous passages to be accomplished; but, as it was, we were spared these excitements. The road was hilly and passed through deep river gorges; but as it was dark long before we reached Elbasan, we unfortunately missed a great deal of this magnificent scenery. During our stay in Albania we travelled considerable distances by car, and for the most part the roads were quite fair, though the surface, judged by standards at home, would be considered perfectly appalling. Most of the cars were aged American vehicles, but apart from frequent punctures they usually did the work all right. It must be remembered that there is not a mile of railway in the whole country, so when one can get along in any kind of car it is well worth doing so.

On leaving Elbasan we followed a road to the coast as far as Durazzo, and on the way one could see, far away to the S., the vast mass of Tomoros—a mountain which might be worth visiting, though it seemed to possess but little character in its outline. The road we were on kept more or less to the River Shkumbri, which forms the dividing line between the northern

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[5] H.Q. of the French 57th Division during the Pogradeč and Shkumbri operations, 1917. This monastery, lying close to the Jugoslav-Albanian frontier, was for long a bone of contention between the Serbs and Albanians. It was handed over to the Serbs in 1925 by Ahmed Zogu.

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and southern Albanian peoples—the Ghegs to the N. and the Tosks to the S. The country was well cultivated, chiefly with fields of maize. Incidentally the route we took from somewhere the other side of Bitolj (Monastir) to Durazzo was almost identically that of the Via Egnatia.

Durazzo is not a place of beauty and is surrounded by vast areas of malarial swamps. We only stayed there long enough for a bathe in the sea and to have lunch and went on to Tirana, about 20 miles distant, where we spent a night. The day following we went N. through beautiful wooded country to Scutari, and before getting there we could see to the N.E. the graceful shapes of the mountains N. of the Drin, for which we were aiming. We had some stifling days in Scutari, where we made preparations for setting out to the mountains. We engaged one mule with a muleteer, Ali Rama Hanci, who proved an excellent fellow. We also took with us Lazzaro Lassa to act as interpreter of Albanian and Serbian languages and to assist us in getting over the mountain frontier. He was quite useful to us in his own country; but as he was ultimately forbidden by Serbian guards to cross the frontier, it is doubtful whether it was really worth our while to take him or not. Besides the Balkan languages he could speak Italian, but so could our muleteer to a certain extent. However, it would have been a pity not to have taken the dragoman Lazzaro, for with straw hat and European clothes of the fashionable Scutari cut he gave a certain air of civilized culture to our party which it might otherwise have lacked. True, he was of an accommodating nature and went upon the Christian rule of casting away those things which offend. From time to time on the mountain tracks we observed him cutting off offending pieces from his shoes and casting them from him, and so he proceeded with cheerful resignation over the stony hills.

Our investigation of the geography of Albania had led us to believe that there were two high mountains called Maja Jezercë (8600 ft.) and Maja Shkëlzen (8200 ft.) which should be conspicuous summits of the Prokletija group. The maps available indicate white uncharted spaces around these somewhat problematical peaks, but the way of approach to the district seemed fairly clear. On the Albanian side the head of the Shala Valley was obviously the starting-off place, and on the Jugoslav side, a point somewhere in the neighbourhood of Gusinje. Even if we did not get to these peaks we felt fairly certain that the main mass of the mountains must lie in the position indicated, and we made plans accordingly. From Scutari our

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intention was to go up the valley of Proni Ṣat, then cross over Chafa Šteygut at its head and descend into the Shala Valley. From the latter valley we could easily reach Chafa Pejs, and when there we could see what could be done in the way of peaks. We further hoped to cross Chafa Pejs and so make over the frontier to Gusinje. As will be seen these plans worked out remarkably well and we made no variation on them in what we were able to do.

We set out from Scutari before daylight on the morning of July 23. For a short bit of the way, as far as the Khan Česmes, we could go by car; and, arrived at this simple khan, we had a species of breakfast before getting under way for the long trek up the valley of Proni Ṣat. Our first day's march was to be as far as Boga. Before entering the valley we had to cross a great barren plain covered with stones and small bushes through which a sandy track meandered on. Long before we were across this the heat was terrific, and very glad we were that the patient mule was carrying our rucksacks for us. The river bed follows a deep ravine through this valley, which is one of the poorest and driest of all the mountain districts and is inhabited by the Shkreli clan. After about 2 hours from our breakfasting place we entered the main valley and came to a few scattered houses where we were hospitably provided with the inevitable Turkish coffee—a drink entirely inadequate for the thirsts we had acquired. As one must not in politeness pay for these drinks it is difficult to go on asking for more and more; but Elmslie on occasions like this usually does his best with one or two of the languages he happens to be learning at the moment. We soon got into really beautiful scenery which promised great things ahead in the way of mountains; but myself I chiefly remember the long sweltering walk up this dry valley by the two places at which we could get water. The first of these was a poor trickle of a stream at a spot called Dusej, and resting here was an amazing assemblage of Albanian men and women sitting among their goats under the scanty shade of a few trees. A tough, slim race these Albanian herdsmen are! We could never make out how they managed to keep any flesh on their bones with the small amount of food they appeared to eat. In none of their villages or shepherds' huts could we ever get an adequate supply of food, although we were always invited to share whatever was going. We much regretted we had not been able to bring more in the way of food with us; but suitable supplies in the Albanian towns are almost non-existent, and this makes provisioning in this

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country a serious problem. I think one would have to import a considerable quantity of food if one was going to make a prolonged stay up in the mountains. The second watering place in Proni Ṣat is a really fine spout of water. We spent a long time by it, making tea and afterwards bathing. It was somewhere hereabouts that our party was increased by another Albanian who seemed loath to leave us and indeed accompanied us for the remainder of the tour. His chief function seemed to be to steer the mule by its tail, and this he did very effectively on sundry descents. This man had a fine face, almost exactly like the excellent frontispiece in the Gordons' book. After the second fountain the valley widens considerably, and before long we entered the land of the Klementi and came in sight of the scattered houses of the village of Boga.

In Albanian villages the houses do not cluster together after the manner of Alpine chalets—rather are they well separated, and each one is built as a small fort with massive stone walls provided only with windows in the upper floor, and these narrow slits adapted for gun-fire. However, the days of family and clan blood feuds which made this species of domestic architecture a necessity are rapidly drawing to a close. The simple plan of justice so long in force among these mountain peoples is happily fast disappearing. In some districts it is stated that only a few years ago blood feuds accounted for the death of 50 per cent. of the male population. With such figures, and remembering the succession of appalling wars that has overwhelmed these people, one almost wonders that one ever sees a grown man in the country. Our own experience has always been of the most peaceful and pleasant nature with the people we have encountered. Everywhere we have been received with friendliness, and indeed it has been almost embarrassing the way the peasants have supplied us from their scanty stores of food and welcomed us to their mountain huts.

At Boga there is a small church with a priest's house adjoining. There, after a very long wait, during which darkness came on, we were able to get some food—eggs mixed up with cheese and milk in a most disagreeable manner, but not at all to be despised in the ravenous condition we had reached. We decided on inspection not to sleep in the house. It was a clear warm night, and we spread our sleeping-bags outside on a very gently sloping grassy field and slept soundly.

We got off early next morning and continued up the valley making for Chafa Šteygut (= the pass of the goat track) at

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the head of the valley (6000 ft. approximately). After a short distance from the village the route steepened and went up through pine woods with a fair track all the way. Apparently this pass coupled with that of Chafa Pejs was once an important highway for merchants going from Ipek and Gusinje to Scutari. I believe they used to sell horses and purchased salt. Before the final rise to the pass-top we entered a more open space called Gropa Bors, and looking down the valley from here we got wonderful views of the limestone walls rising up in true Dolomite fashion above the pines. Just below the top there was a very small spring—most welcome to find in this almost waterless region. The pass itself is a narrow cut in the rocks, and the view on the far side almost took our breath away, for we had no notion that we were going to see such a vast array of peaks. The maps we had were entirely inadequate to account for all the summits that rose to the E. and N. As will be seen from the sketch map the route over Chafa Šteygut leads down into the Shala Valley—the long defile which runs S. to meet the Drin at Dusmani. All round the head of this valley are magnificent jagged limestone summits. It appeared that the name Jezercë must, if it has any meaning at all, be only a name for the group at the head of Shala Valley, and from where we stood we could see a number of individual peaks rising from the general mass of this region which is perhaps best called Prokletija. The way leading up to Chafa Pejs could be more or less made out, the route appearing to start up very steep screes at the end of the Shala Valley. Running E. from the top of the chafa was a vast shelf of high ground with a fine mountain with a notched arête at its eastern extremity. This mountain, as we heard later, is called Pupluks, and it obviously seemed to be one of the most desirable summits to attain. From Šteygut it was not clear exactly where the highest point of this mountain lay, for other heights in front partly obscured it. On our left hand to the N. of the pass there were high crags rising to various summits which would make the high-level traverse between Šteygut and Pejs an arduous business. The drop from the top of Šteygut to the valley floor is about 3300 ft., and the descent is very steep indeed. For the initial stage a serpentine track goes down through screes. It is a horribly rough path, only just possible for a mule. The lower part is through woods and trees and leads to a plank bridge over the stream about half an hour above the houses of Thethi. We got to this village about mid-day, and were enthusiastically welcomed by the cheerful Franciscan priest, Nikolaus Kolej by name, who

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presided in this outpost of civilization and lived in a pleasant dwelling, half house and half church. He had a large group of boys with him on holiday and they were all busy re-roofing the house when we arrived—for there had recently been a fire which had burnt most of the place down. This Franciscan had lived in Vienna for some years and so spoke German, and we got a great deal of useful information from him. Incidentally we learnt that a party of Italians had been in the district a few weeks previously for the purpose of surveying the mountains, and we could see the cairns they had built on most of the heights round the valley. Thethi lies on a flat valley floor which appears to be almost surrounded by steep mountains, for the Shala stream leaves this upper part of the valley by a deeply cut gorge. There is a striking mountain at the head of the valley to the W. of Chafa Pejs which has a fine leaning outline, and as we discovered later on, when we were at the top of Pejs, this would not be a difficult summit to reach. To the W. of this mountain is a ridge of hills with a sharp sky-line, and lying rather back, a rounded summit of considerable height which seems to be called Radohins.

The E. side of the valley also has high summits along its crest, one of which, Maja Drenit (7000 ft. approx.), was climbed by Steinmetz in 1904. Over this E. side a pass leads to the Valbona Valley. It would be interesting to traverse this, for the district on the far side appears to be quite undescribed by any travellers, and it might be possible to reach Shkëlzen this way.

We had a lazy afternoon bathing in the stream near Thethi; and in the evening, after a meal with the priest, we camped out in a field. Again the night was beautifully warm and we slept in the open.

The next morning found us after an early start laboriously making up the steep rise to Chafa Pejs, and terrifically hot it was plodding up from one limestone shelf to another until we arrived at the top. Our dragoman was quite unused to this kind of work, and, whatever the language may have been that he used, the words sounded sufficiently expressive of his feelings. When we got to the top of this pass we were all suddenly and completely overcome by hunger—a really consuming hunger which the packs from the back of the mule quite failed to satisfy. I think this came from our foolishly having tried to do in Albania as the Albanians do in the matter of food, and the cumulative effect of such abstinence nearly led to serious consequences. We had been told in Scutari

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Photo, L. A. Ellwood.

PUPLUKS. From the N.

Photo, L. A. Ellwood.

CHAFA PEJS. Looking N.

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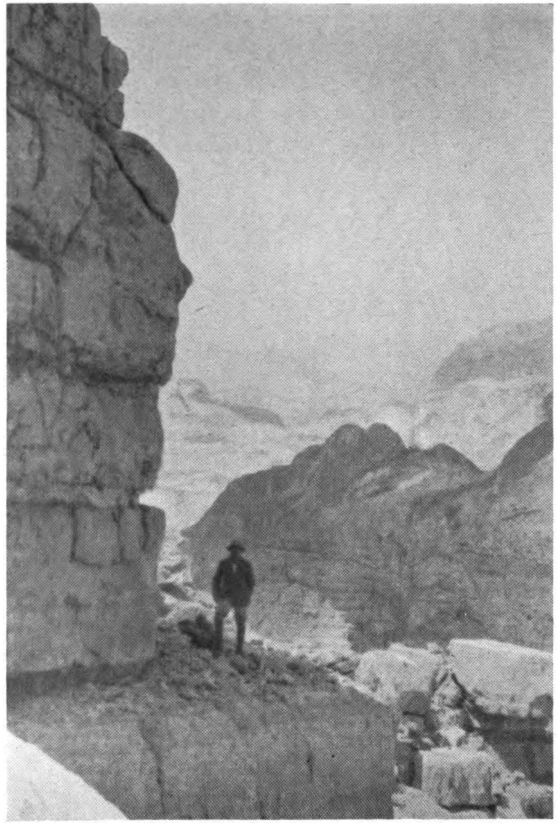
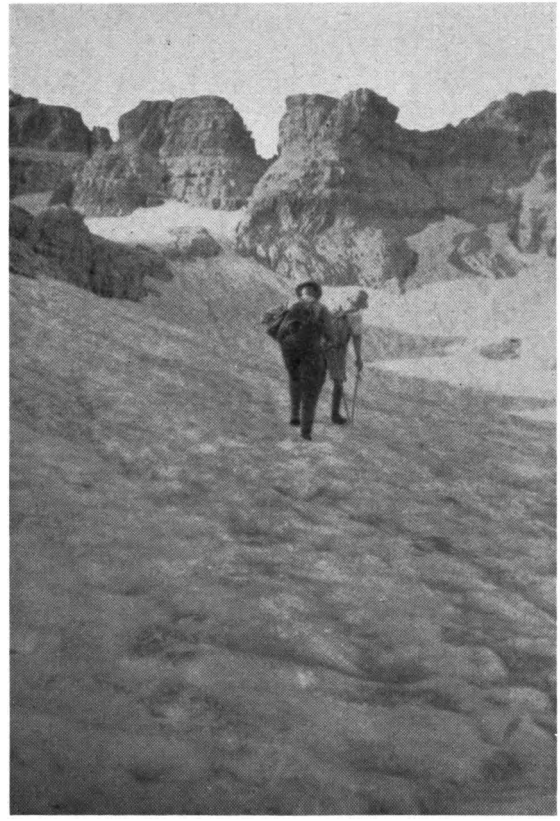


Photo, W. T. Elmslie.
Ledge on N. Slope of W. arête of PUPLUKS.



Towards W. Ridge of PUPLUKS.

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that we should be able to get plenty of food in the villages; but this was not the case, and we ought to have carried far more than we had done—this is a bit of advice to anyone who may follow in our steps. After our inadequate meal we were able to appreciate what a wonderful place the top of the chafa is. This top is of considerable extent with ups and downs into various hollows—one of which encloses a rather beautiful little tarn. On the W. side of the pass there are several fine peaks: one in particular looked very attractive with an almost straight shoulder slanting up for a great length to its summit, and it looked as if it would be quite a problem to attain this shoulder. There was a still finer peak, which we gathered must be Shkroz, further to the W., and, as we learnt later when we were able to see it better from the top of Pupluks, Shkroz is certainly one of the finest of the Prokletija mountains. To the E. of the chafa the great shelf mentioned in the view from Šteygut led away over very rough and fatiguing looking country towards Pupluks and the peaks adjoining it. There would probably be a fairly good route up Pupluks by this shelf; but we had formed a plan to descend the far side of Chafa Pejs and camp by some shepherds' huts which we had heard existed at a spot called Runica. From here we thought we might effect the ascent of Pupluks from the N. Accordingly we crossed the pass and got down to Runica about mid-day. Chafa Pejs lies at a height of 5630 ft., and Runica is some 1200 ft. lower. There are two clumps of stone huts which suffice for the simple needs of the herdsmen who live up here during the summer. All things considered, it was a good place for a camp, for we could get milk, cheese and a very little meat from the huts, and we found a place for our tents rather lower down on a grassy plateau which must at one time have been the floor of a lake. The valley we were in runs in a N.E. direction and drains into the waters of the Lim. All round were fine dolomite cliffs—so far as we knew, entirely unexplored. In the afternoon we went across to the N. side of the valley so as to look across to the opposite side and prospect a route up in the direction of Pupluks. There was a wide ravine which continued as a gully up to a well-marked col (Chafa Pupluks). This seemed to be the obvious line of ascent, but we could not see how things would develop after this col was reached. There was no more to be done that afternoon, so we lay about in the small amount of shade available and consumed tea and pemmican. In the evening we went up to the huts, where great preparations had been made by the

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herdsmen to provide us with a decent meal. We ate this insulated as well as we were able on stones lying in the vast area of manure and refuse which surrounded the vicinity of the huts, and all the shepherds and their families gathered round to watch our struggles with the unaccustomed food, which, anyhow in the case of Ellwood and myself, were not so very successful. It is pleasant to remember this meal with the crowd of simple Albanians of all ages and sizes around us, clothed in their black braided white trousers, short coats, and small white skull-caps. No more appropriate setting could have been desired than the high-lying valley with the limestone pinnacles towering up on all sides and the deep blue shadows of evening gradually gaining upon them.

We got away from our camp at 2.40 A.M. the next morning. There was a fine moon which served us well until we got into the gully we had prospected. This proved fairly easy of ascent for some way; but then it narrowed, and we were confronted with a steep wall of rock with a dry watercourse at a steep angle at its left-hand corner. To avoid negotiating this in the lantern light it seemed better to forsake the gully and make out on our right-hand side. This was easy to do and we made a considerable ascent up very steep grassy slopes and ledges, and so got nearly to the level of the col, but some distance W. of it. It was fairly easy to cut across the intervening rough ground, and we arrived at the col (Chafa Pupluks) about 2 hours after our start. Dawn came upon us before we reached this point, and we were able to gain some impression of the magnificent scene which faced us. Pupluks was unmistakable ahead, but it appeared to be a long way off, and there was a vast limestone hollow to be crossed before the rise to the mountain could be reached. To the W. of the summit there was a very fine rock ridge with many pinnacles along its length, and it seemed that, if the crest of this ridge could be reached, the way to the summit would be easy going. Five well-marked snow gullies descended from the ridge to a big snow slope lying high up on the side of the mountain; and the problem appeared to be to reach this high-lying slope and tackle one of the gullies. We spent some time investigating a line of ascent, and it seemed fairly clear that a long gentle snow slope on the far side of the limestone hollow would first have to be gained. Some rocks at the head of this slope ought to afford a feasible approach to the higher snow slope. It was laborious and very hot crossing to the lower snow slope; but it was a fine world of rocks we had reached, with all the fantastic beauty which

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Photo, C. M. Sleeman.

CHAFA PEPLUKS.

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limestone mountains alone can give. High up on one of the great rock walls to our right was a hole right through the mountain—very reminiscent of Tafonata in Corsica. Although this barren wilderness is not ever likely to blossom like the rose, it is not too much to prophesy that the Prokletija—these accursed mountains of bygone times—will perhaps some day become the paradise of a Skypetar Alpine Club.

Our lower snow slopes went very well. It was not difficult to find a route up the rocks and screes at its head, and so we arrived at the upper snow slope. This is well shown in the photograph of the mountain with the gullies from the W. ridge running down to it. We started upwards across the slope and after inspection decided to try the gully last but one from the summit end of the ridge. A certain amount of step-cutting had to be done to reach the gully, but it was not difficult to gain its rocky bed. The effort of ascent was one of care rather than strenuous climbing. The rock was excessively rotten and the angle steep, but no serious difficulties were encountered, and we were glad to find that the gully continued right up to the arête. However, we did not follow the actual edge of the arête onwards, for a very convenient ledge, keeping slightly beneath the gendarmes of the ridge, led us right to the final peak. This final peak consisted of screes and slabs and was very straightforward work. We got to the top at 8.45. Arrived there we found a recently built cairn—no doubt made by the Italian survey party we had been told about in Thethi. The existence of these cairns is worth reporting: but this is not the place to comment on their significance; however one may sympathize with the Albanians, one hardly wonders at the vigilance of the Serbs all along their frontier.

The day was blazing hot and there was not a cloud in the sky, as seems to be the invariable rule in the Albanian summer. We spent a long time on the summit photographing in all directions. To the E. of us we could see far away down the Valbona Valley; and we thought we could make out a peak which might possibly be Shkëlzen, though its distance seemed greater than we had expected. We made a mental note that the Valbona Valley ought certainly to be visited one day. Due S. of us rose up a considerable mountain which is probably Lis. This blocked the view of some part of the ridge which forms the E. side of the Shala Valley; and incidentally this may account for the fact that Steinmetz, when he ascended Maja Drenit, failed to see Pupluks. To the S.W. we got a fine view of the great shelf of country which stretches to Chafa

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Pejs under the W. ridge of Pupluks. Probably a fairly easy. but laborious ascent of Pupluks could be made by this shelf, but it would involve up-and-down work in limestone hollows and a great deal of scree ascent. S.E. of Chafa Pejs we could see the rounded top of Radohins and farther S. Chafa Šteygut. Perhaps the finest of all the peaks in sight was Shkroz, which rose in the distance as a fine rock pyramid rather to the N. of W. To the N.W. was Chafa Pupluks by which way we had come, and beyond this, and forming a general background to the northerly view, was the great line of precipices cut out into innumerable peaks which form the N. side of the valley in which Runica lies.

In descending we kept further along the ridge than the head of the gully we had ascended, to see if we could discover a route off the ridge freer from loose stones than our gully; but the other gullies seemed no more promising, so we went down the way we had come up, and, in due course, in the fierce mid-day heat were traversing the hollow leading to Chafa Pupluks. We kept to the ravine all the way down from the chafa. It was very steep in places, and, for ascending, the way we had gone in the early morning is certainly preferable. However, our descent to the level of the camp was rapid and we arrived back at 4.30.

We had no more days at our disposal to make further investigations of the climbing possibilities of these Prokletija mountains. Early in the morning we struck camp and set off down the valley toward Vusanje and Gusinje. The way led down through pine trees, and in less than an hour's time we came to a very beautiful lake. Here the Albanian-Jugoslav frontier runs right across the valley, and we half expected difficulty in crossing the by no means imaginary line. There was a small Jugoslav guard-house a few hundred yards beyond the white marks which indicated the frontier, and repeated shouts brought forth a Serb soldier with whom our dragoman entered into a prolonged argument. While this was in progress we were longing to bathe in the beautiful lake, but refrained from doing so as it might have meant an 'affair' and a complication of international relations. No amount of entreaty or cigarettes availed with the soldier. We ourselves were to be allowed to pass, but the dragoman, the muleteer, and the hanger-on-to-the-mule's-tail were forbidden to leave their native land. Reluctantly we said good-bye to them; but the pathetic figure of the dragoman—straw hat in hand—and his companions left behind in their isolated situation still lingers

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in the mind. The Serb soldier proved a willing companion and shouldered two uncomfortable cylindrical sacks removed from the mule, while we took up the burden of our own weighty rucksacks. So we proceeded down the valley to the small village of Vusanje. Here we waited some time in a gendarmerie post, and in process of time a mule was brought forth. The baggage was transferred to the animal and we continued our way to Gusinje. The road went through a fertile valley, but it was rather a depressing walk, as all the houses we passed were in ruins due to some incident the particulars of which were not quite clear to us. All went well, however, and it seemed that without further difficulty we should actually reach this far-famed village. There are many accounts of attempts to get to this place, but I have heard of no one who has been there. The Admiralty Handbook of Serbia, Montenegro and Albania says 'it is regarded as one of the most fanatical towns in Albania and has hardly ever been visited by a stranger.' Save for the fact that it is inhabited by Albanians it is no longer Albanian—obviously it is a place to visit. We got there all right and spent a very delightful afternoon bathing with some boys in a clear river with the distant Pupluks in sight, far away up the valley we had come down. This is not the place to record our experiences of the evening and how we ultimately escaped at night and surprised the people of the inn at Andrijevica, 15 miles away, in the very early hours of the next morning. The account of all these happenings is rather for vivid journalism than the pages of the ALPINE JOURNAL.

By arriving in Andrijevica we concluded the Albanian part of our holiday; but before going E. to Peč, and so to join the railway at Mitrovica, we spent a short time in the hill country of Montenegro.

In rapid touring such as we had made one always leaves much for the next time. The mountains of Albania more than came up to our expectation, and the Prokletija with all its unexplored peaks and climbs—to say nothing of the manifold fascinations of travel therein—is certainly no longer an accursed region as far as we are concerned.

The following is a list of books, etc., bearing upon Albanian travel:

'Reise durch Rumelien und nach Brussa im Jahre 1839' (Göttingen, 1841), by A. Grisebach. He made a journey in four

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days through the Ducajin country. He says that he passed no villages but seventeen khans. He encountered the best scenery between his thirteenth and fifteenth khan, and commented on the steep Alp-like peaks rising up magnificently in the N. He compares them with the rock points of the Dolomites of Tyrol, and counted fifty such needle peaks and noted the snow filling their gullies.

'Travels in the Slavonic Provinces of Turkey-in-Europe,' 1867, by G. Muir Mackenzie and A. P. Irby. These ladies also travelled from Prizren to Scutari, apparently in the year 1863.

'Researches in the Highlands of Turkey,' 1869, by H. F. Tozer. In vol. i. he tells of his journey from Scutari to Prizren made in 1865. He went through the country of the Mirdites to Orosh. Going on to the junction of the Drins he came in sight of the Bertiscus mountains and describes the glorious view to 'the serrated and in some places snowy peaks of Jacova.'

'Eine Reise durch die Hochländergaue Oberalbaniens,' 1904, and 'Ein Vorstoss in die Nordalbanischen Alpen,' 1905, two pamphlets by Karl Steinmetz in the series Zur Kunde der Balkanhalbinsel, Reisen und Beobachtungen, Hartleben, Wien und Leipzig. Each of these is a very carefully written account of a journey made in northern Albania. In the first journey made in 1903 the author traversed the S. part of this district, and in the second journey made in 1904 he went up Proni Şat, crossed Chafa Şteygut and descended into the Shala Valley. From Thethi he made the ascent of Drenit on the E. side of the valley. Both of these accounts are full of interesting observations, and are well worth reading by anyone intending to travel through the northern mountains. Each pamphlet has an excellent map of the country covered. Unfortunately our party only discovered these pamphlets after we had returned to England.

'Das Katholische Nordbanien, Eine Skizze,' by Franz Baron Nopcsa, deals with matters of ethnological and geographical interest in northern Albania. The pamphlet is provided with a large scale map of the district and also a geological sketch map.

'High Albania,' 1909, by M. E. Durham, gives accounts of travels made in the northern mountains in 1908 and contains a great deal of interesting information about Albanian customs. The volume has a good map.

'The Peaks of Shala,' 1922, by R. W. Lane, gives an account of a journey made to the Shala Valley. It is written in some-

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what emotional American and contains vivid descriptions of adventure, real and imaginary. The authoress certainly imparts the fascination of Albanian travel.

'Two Vagabonds in Albania,' 1927, by Jan and Cora Gordon. This gives an excellent picture of Albania and matters Albanian. The authors among other journeys in 1925 went into the Shala Valley by way of Chafa Šteygut. The book is filled with delightful sketches and drawings, and is a highly artistic work.

'L'Albanie et les Albanais,' 1921, by J. Bourcart. The author lived three years in Albania and travelled extensively in the country. The book was written with the aim of making known Albania and the Albanians to the French.

'Handbook of Serbia, Montenegro, Albania, etc.,' 1920. This book is prepared on behalf of the Admiralty and the War Office. It gives details of a great number of itineraries through the countries dealt with. These details are not always up to date. Travel in Albania is an easier matter than might be gathered from the information supplied in this book. There are excellent chapters on the geography and peoples of the countries, also vocabularies of the languages.

From the great mass of literature dealing with Balkan affairs I select the following books as being useful reading from the general historical and geographical points of view:

'Albania the Foundling State of Europe,' 1914, by Wadham Peacock; 'Geographical Aspects of Balkan Problems,' 1915, by M. L. Newbigin; 'Albania Past and Present,' 1919, by A. Chekrezi; 'Twenty Years of Balkan Tangle,' 1920, by M. E. Durham; 'The New Balkans,' 1926, by H. F. Armstrong; 'L'Albanie devant l'Europe,' 1930, by A. Mousset; 'Albania. The Rise of a Kingdom,' 1930, by J. Swire.

The following maps are useful:

Sofiya, 1 : 1,000,000, compiled by R. G. S. under direction of the Geographical Section General Staff, Corrections 1918.

Freytag and Berndt's Autostrassenkarten Sheet 82, 1 : 300,000.

The following six sheets of the Kartographisches, früher Militärgeographisches Institut in Wien, 1 : 200,000. Scutari; Prizren; Durazzo; Elbasan; Karfu; Valona.

The maps in the two pamphlets by K. Steinmetz mentioned above. These maps have been particularly useful to me in making the sketch map which accompanies this article.

None of the maps are really adequate for travel in the mountains. Large white spaces still remain, which should perhaps be one of the chief incentives to future exploration.

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A Canadian Pack Train Trip.

By Miss KATE GARDINER.

ATTRACTED by some unclimbed peaks south of Banff, Walter Feuz (one of the C.P.R. Swiss guides) and I set off from that mountain town on August 4, with Mr. George Harrison and his pack train, in high hopes of getting one or two first ascents in this region.

Mt. Assiniboine lay almost on our route, so we made up our minds to attempt that also, and after two and a half days' riding and camping pitched our tents at the far end of Sunburst Lake, in full view of this often called 'Canadian Matterhorn' (11,870 ft.).

We ascended the mountain on August 7 by the N. ridge, a very enjoyable rock climb, and reached the top at 11.30. It was windy and cold, but we got a beautifully clear view from the snow corniche during the half-hour we spent up there, and then descended by the same route, gaining camp at 5.30 p.m.

Our next halting-place was on the shores of Marvel Lake, an entrancingly lovely spot, the mountains and forests mirrored in the water.

From there the trail in the direction of the two peaks we had next in view was so steep and rough that Mr. Harrison, Walter and I left the main camp in charge of the cook and Mr. Harrison's young brother-in-law Harry, and only taking two horses with us, started off to put up a fly camp in Aurora Creek.

Walter and I made the first ascent of Mt. Alcantara (9910 ft.) on August 11, *via* the S.E. ridge, leaving camp at 6 a.m. and gaining the summit at 11 o'clock. We were up there for an hour and got back to camp at 3.30. This was a fairly easy climb, although the mountain is very steep-looking from below.

Brusiloff (9990 ft.) on August 12, also a first ascent, was more formidable. We climbed to the N. ridge and there, traversing slightly to the left, went up a crack, which we fortunately found, on to the main ridge again; in that way overcoming the difficulty of a piece of rock which from lower down looked quite smooth and unscalable. After two hours more of good climbing we reached the top at 11 o'clock, where we found a wide corniched summit. Having spent an hour and a half there, we got back to Aurora Creek at 4 o'clock.

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Photo, W. Feuz.

Mt. JOFFRE. From Mt. CADORNA.

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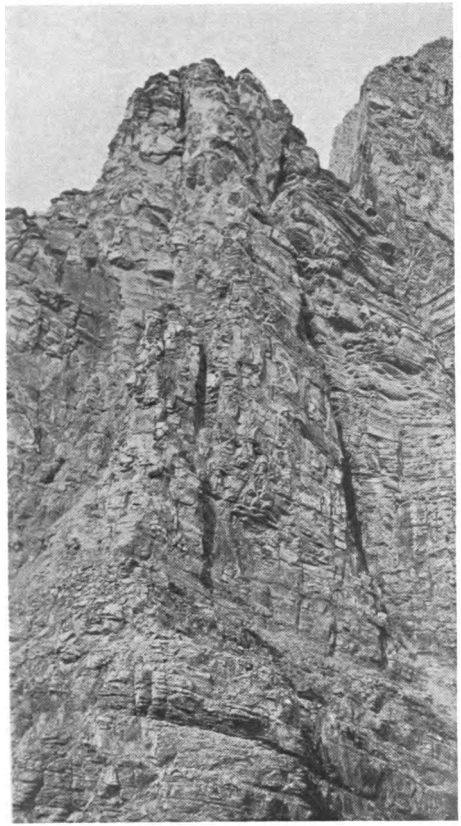
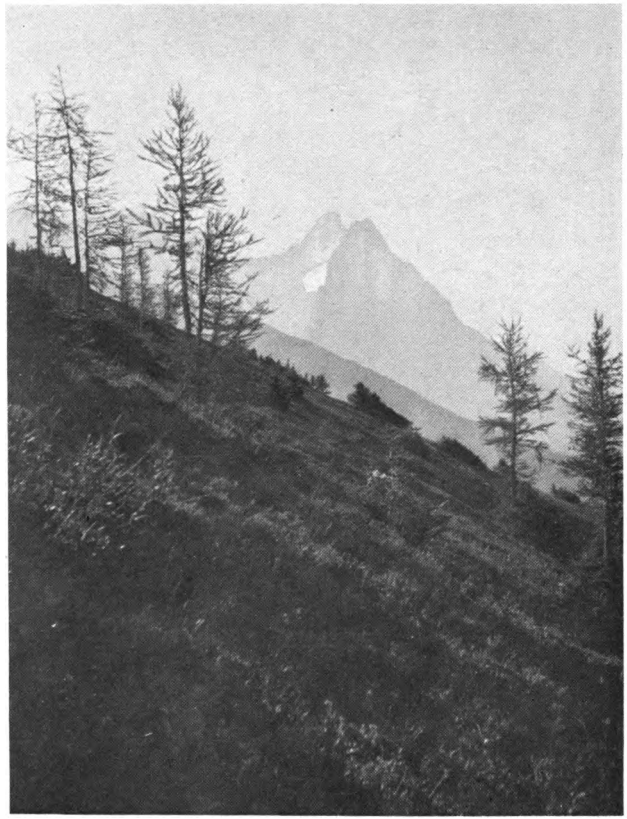


Photo, W. Feuz.

Rocks Scaled in Ascent of
Mt. PRINCE EDWARD.



Photo, Miss Gardiner.

Mt. ABRUZZI.

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The smoke from big forest fires in the Calgary direction unfortunately rather spoilt the views on both these ascents. The second evening of our stay at Aurora Creek a fine young grizzly bear came quite close to our camp fire to have a look at us, but was greatly alarmed and ran away when Mr. Harrison's dog barked at him. We saw many wild animals as we moved South: elk, moose, deer, mountain goats, porcupines and wolverines—they seemed quite unafraid and very curious as to who and what we were.

On retracing our footsteps to Marvel Lake, our next objective was some climbing in the Royal Group. On the way there, over Palliser Pass one gets fine views of Mt. Sir Douglas Haig (11,174 ft.), highest peak in the British Military Group, first ascended by Dr. Hickson and Edward Feuz on August 11, 1919. The country over the pass and in Palliser Valley was difficult to ride through on account of fallen logs. We found beautiful wild flowers and fruit everywhere on our way to Royal Creek, where we camped near the mountains, with Mts. Prince Albert, Edward and Henry towering above us.

Walter and Mr. Harrison cleared an elk trail to the foot of the mountains, and on August 17 Walter and I left camp at 5.30 to attempt the first ascent of Mt. Prince Henry (10,560 ft.). We climbed up a rock rib between Edward and Henry, a strenuous five hours, to the sharp S.E. ridge. From there it was a very good three hours' climb to the top. At one place we had to move along a sharp *à cheval* ridge for about an hour with sloping slabs on one side and a sheer drop on the other. From the summit we got a beautiful view of Mt. King George (11,226 ft.), the highest peak of the Royal Group, first ascended by the late Mr. V. A. Fynn and Rudolf Aemmer, August 10, 1919. We also looked carefully at Mt. Prince Edward from this point. The ascent of that mountain appeared, however, too difficult up the N. ridge, as the summit was overhanging; there seemed, though, to be a possible route from the S.W. side. Having gained the top of Mt. Prince Henry at 1.30 P.M. we spent an hour there and returned to camp by 8.15.

As the best way to ascend Mt. Prince Edward apparently was from the other side of the mountains, Mr. Harrison, Walter and I took a pack-horse and started off up the steep hill at the head of Royal Creek on August 20. The weather had been threatening and we were caught in a snowstorm, but the day fortunately improved later and we worked on round Mt. Queen Mary and Mt. Prince John, crossing three passes, and camped in a valley beyond Mt. Prince Henry.

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On August 21 Walter and I were fortunate enough to make a successful first ascent of Mt. Prince Edward (10,590 ft.). Crossing over the lower W. ridge of Mt. Prince Henry and traversing the lower slopes of Mt. Prince Edward, we ascended to the W. ridge. From there the mountain was very precipitous. In one place, after having gone straight up for about 200 ft., we were obliged to make a difficult traverse on to the main ridge, crawling along a narrow ledge with only just room to get through on account of the overhanging top. Then we were on and off the ridge, sometimes climbing straight up and sometimes skirting bluffs, until we reached the snow ridge, about 40 minutes from the top. The final summit was good solid rock. Walter thoroughly explored it, looking down over the front for a possible line of ascent from the N.; but the rocks were smooth and overhanging for about 100 ft., and the way we had taken appeared to be the only one by which to approach the top. On the very summit we curiously enough found an eagle's feather. The view of the other peaks of the Royal Group was magnificent, Mt. King George dominating them all and many other far-off groups of mountains showing faintly through the smoke haze. This was perhaps the most difficult climb of our trip; we left camp at 6.15 A.M., were on the summit at 12 noon, and returned to camp by 6.40.

From the Royal Group we wended our way towards White River Valley, riding on through deep valleys and still forests with lofty mountains rising steeply on either side. A sudden rainstorm cleared the air, so going over Sylvan Pass we got a glorious view of the more distant peaks.

We put up our main camp down by the stream in White River Valley, and on August 25 Walter and I set off at 6.15 for the first ascent of Cadorna (10,280 ft.). We climbed up part of the W. arête, but found this route impossible, so crossed over to the S.W. face of the mountain and thereby gained the summit at 2 o'clock. The N.E. side of Cadorna is a precipice. On our return we descended the face of the mountain to a lake where Mr. Harrison met us with some horses, and after a good ride we got to camp at 8 o'clock.

South of the Royal Group the trails were in many places getting overgrown and difficult to clear, and on some of the side, trips we simply followed elk trails.

The most impressive mountain in White River Valley is Mt. Abruzzi (10,700 ft.), and to attempt this climb Walter and Mr. Harrison put up another small camp near a lake on the slopes of the mountain.

On August 28 Walter and I left camp at 6.30, hoping to find

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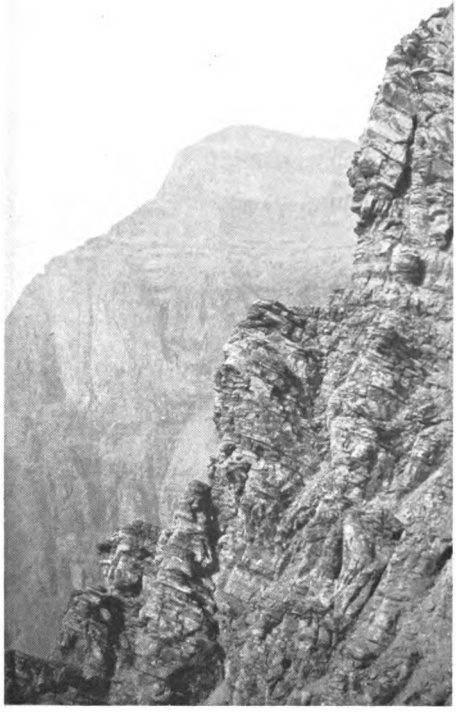

Mt. PRINCE HENRY.

Photo, W. Feuz.

ALCANTARA.

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this also a first ascent, as we had seen no cairn on the summit from Cadorna. We gained the S. ridge of the mountain about 9.30, by which we made our way to the top. During the ascent we got fine views of Mt. Joffre (11,316 ft.), a very majestic-looking mountain and the highest peak of the French Military Group. It was first ascended by Dr. Hickson and Edward Feuz in August 1919. There was some very good climbing on our peak's summit rocks; but as they rose steeply before us, rather to our dismay we suddenly came on an empty sardine tin, and what little hope we had left was finally dashed to the ground when, after a somewhat stiff climb, we found a tumbled-down cairn with a stick near it to which some remains of a flag were nailed. We resurrected the cairn and put the flagpole in position, speculating as to who had been there before us, and then laughingly decided that it was in any case a most pleasant climb and one very much worth while. Arriving at the top at 11.45, we left again at 1 o'clock, descending by the N.E. face beside the glacier and got back to camp by 4 P.M., in that way making a traverse of the mountain. The frozen mud, shale and ice made the going rather ugly during this steep descent.

On leaving White River Valley we gradually retraced our steps, coming in for a fearful thunderstorm crossing Palliser Pass and being detained at our camp site by a heavy snow-storm the following day.

Leaving the Assiniboine district on our left, we followed the trail down Spray River Valley, and two days later, on September 5, rode into Banff in serene weather with many a backward look at the unspeakable beauty of the high mountains with their fresh covering of snow.

[We beg to express our best thanks and congratulations to the daughter of our late distinguished and much regretted Vice-President.—*Editor*, 'A.J.']

KANGCHENJUNGA, 1929.

The Bavarian Attempt.[1]

IN January 1929 I decided to undertake an expedition to the Himalaya. The proposal was received with enthusiasm by the

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[1] The translation we owe mostly to Mr. E. O. Shebbeare, who joined the expedition for part of the time.—*Editor*.

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friends whom I invited to take part, and with generous help from other quarters. The end of June saw us sailing through the Mediterranean; there were nine of us: Dr. Eugen Allwein; Peter Aufschnaiter; Paul Bauer; Dr. Ernst Beigel; Julius Brenner; Wilhelm Fendt; Carl von Kraus; Joachim Leupold; and Alexander Thoenes, all members of the A.A.V., Munich, and of the D. and Œ.A.V. The necessary funds were provided to the extent of three-eighths by the participants themselves and five-eighths by the above clubs.

We arrived in Darjeeling during the last days of July. Sikkim stood open to us; Nepal, on the contrary, remained closed (at first). We therefore decided to make the Zemu Glacier our first objective. On the strength of our own experience and that of the Everest Expedition we had already, before leaving Germany, collected our own and the porters' equipment and the greater part of the provisions, all packed in coolie-loads. The thoroughness of our preparations and the practical help of the Authorities in Darjeeling and of the Himalayan Club enabled us to start the march from Darjeeling on the *third* day after our arrival. We had collected our provisions and recruited 90 porters, including 15 men who had been on the Everest Expedition, 2 sirdars, 2 cooks, 1 interpreter and under-sirdar. In the first days of August we started in two parties, *en route* for Kangchenjunga, northward through Sikkim. Colonel Tobin to our joy accompanied us.

On *August 9* a reconnoitring party left the mule-path into Tibet, and plunged into the dense virgin forest of the Zemu Valley. They made good progress, and in the next few days the main body followed. Beyond Camp I, near Jaktang, 10,922 ft., and Camp II, 12,596 ft., always keeping to the N. side of the glacier, we reached Camp III (3½ hours E. of Green Lake, 14,126 ft.). We formed our base camp there, and began exploring on the *18th*. We had now to settle whether it was possible to tackle Kangchenjunga from this side and whether we could attempt this immediately. Brenner and I with one porter left straight for our objective, Tobin accompanying us for the first day. Aufschnaiter, Kraus, and Leupold went to Simvu in order to get an idea of the structure of Kangchenjunga thence.

Three days later Brenner and I stood at the foot of the mountain and viewed the N.E. spur, which, from a telephotograph in Freshfield's book, seemed to offer a possible route. Its appearance was most formidable; we retreated in silence. On the *22nd* we returned to the main camp at the same time as the Simvu party. I had an idea that the spur was worth a trial; in fact that it was *possible* and that we ought to go for it at once. The Simvu party had had mostly bad weather, but they had reached the saddle three times, glacier dangers, however, preventing further progress.

During the next few days in the main camp all the information so far collected was discussed; Tobin returned to Darjeeling.

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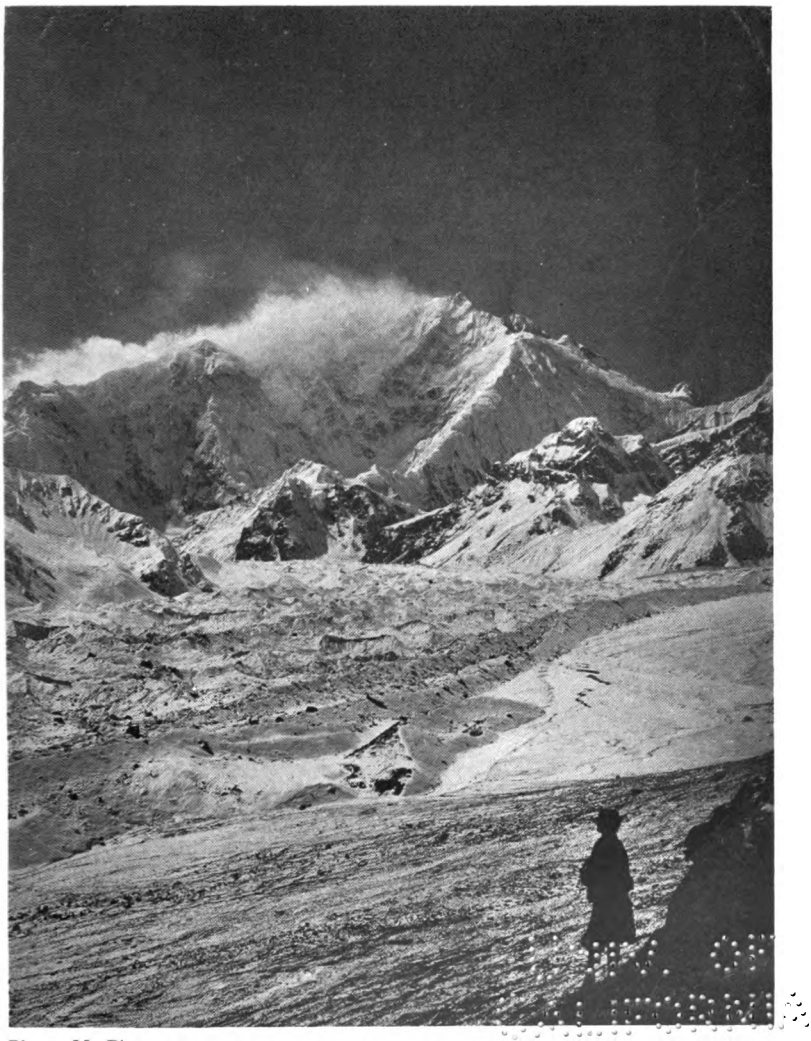

Photo, M. Piacenza.

KANGCHENJUNGA. Showing N.E. Spur.

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Allwein, Fendt, and Brenner set out to reconnoitre the northern glacier: they climbed the peak presumably overlooking the end of the valley, fog, however, preventing them from obtaining any views.

On *August 26* the advance against Kangchenjunga began. On the *28th* the first party (Kraus, Leupold, and I, with 6 porters) pitched Camp IV at the foot of Kangchenjunga at an elevation of 17,056 ft. The next few days were occupied in attempts to reach the crest of the arête. On *September 2* Kraus and I pushed forward to within 350 ft. of the crest. On the next day, however, the main party, Allwein, Aufschnaiter, Thoenes, and I, with 3 porters, provisions, and camp equipment, was held up a few feet above the spot at which we had turned back the day before. Aufschnaiter and I turned back at once with the porters, as the place was too dangerous. Allwein and Thoenes then tried to reach the crest without loads. They were, however, forced to turn back scarcely two rope-lengths below it. We made yet another attempt the next day: Allwein and Thoenes reached the crest by a very dangerous couloir. It appeared, however, that the continuation of this route was impossible.

From the Zemu Gap (Kraus and Leupold) we received bad news: deep snow and great danger from avalanches. I again considered the spur and would not give it up without a very thorough investigation. A camp was scooped out into the wall. On *September 6* we started on a last decisive attempt. The next day we had to retreat right back to Camp VI, owing to a blizzard. *September 8* was the only day on the whole expedition when ALL members were together. On *September 9*, the weather improving, Camp VII was again occupied. Then the heavy snow-falls began; avalanches poured over the ice-cliff near Camp VII, which had to be hastily evacuated. An entire day had to be spent stamping the route between Camps VII and VI through new snow 3 to 5 ft. deep. A further day was necessary to re-establish communication with Camp III. Then the real attack began, from the N.E. spur and the Zemu Gap simultaneously. Camp VII was re-pitched up in the ice wall at a spot safe from avalanches, 18,696 ft. On *September 16* Beigel, Kraus, and I, after days of step-cutting, reached the crest of the arête. Thence we worked for 2 days at the gendarmes on the horizontal part of the arête and, on the *19th*, stood opposite the place where the most abrupt step begins. On the *20th* Aufschnaiter, Beigel, Kraus, and I, with 3 porters, made good progress, but we only got some 450 ft. up the steep part. Here Beigel and I pitched a very exposed camp. The next day we hacked our way through and over the pinnacles. We reached the camp site noticed before and made it ready. Allwein, Kraus, and Thoenes, with 2 porters, occupied it, Camp VIII, 20,664 ft., on the same day. The Zemu party, which on account of the danger from avalanches had not yet got beyond the Zemu Gap, was called in. Here, on the arête, the difficulties owsere

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great that they could be overcome only by concentrating the united strength of the party.

When Brenner, Fendt, and I, with 5 porters, returned to Camp VIII on *September 26*, the last and most vertical step had been overcome. Allwein, Beigel, Kraus, and Thoenes had taken turns in step-cutting. To drive a vertical tunnel about 26 ft. long up and through an inconspicuous but unavoidable ice-tower had alone occupied 2 days. Above the vertical step we established Camp IX, 21,646 ft. The worst of our troubles were behind us. The arête now presented no unsurmountable difficulties. On *October 2* the first two 'attacking' parties, Allwein, Aufschnaiter, Kraus, and Thoenes, with 2 porters, established Camp X, 23,288 ft. Beigel and I followed the next day with 2 porters. This day Allwein and Kraus, without knowing it at the time, had stood on the highest point we were destined to reach. They turned back at 11 A.M. at about **24,272** ft., as it was impossible to reach the shoulder, about 26,240 ft., that day if they were to get back to camp before 5 P.M. On the evening of *October 3*, 6 sahibs and 4 porters were ready in Camp X, 23,288 ft., with equipment and provisions to start, but things turned out otherwise. There was storm and sleet all night, and on *October 4* it snowed hard. Kraus and Thoenes went down with the porters, Lewa and Sitten (Cheten), to help Brenner and Fendt's party. On *October 5* it snowed harder and more continuously than ever; Kangchenjunga had already become practically impossible. On *October 6* Allwein and I, with the porters Kedar and Passang, tried in improving weather to move the camp higher up. It took us 2 hours to climb the first 250 ft. After leaving our rucksacks behind we pushed on upwards for another hour and a half. The view was marvellous; then we turned back. On the *7th* the snow-fall was terrific: within 24 hours at least 6½ ft. of new snow fell; it buried all our plans. Yesterday we were still thinking of the advance; to-day it required good nerves to consider the possibility of retreat.

With 130 ft. of rope between each man, Allwein in front, the porters in the middle, and I in the rear, we set out on *October 8*, amid drifting snow and wind, to force our way down. The porters with their heavy loads (they carried 80, we 30 or 40 lbs.) kept on sticking hopelessly. We had to pull them out: a gentle rise of 150 ft. cost us 2 hours' work. The first 'avalanche' slope slipped off as Allwein got on to it, the next had already gone. Another place avalanched just as the first three arrived on it: the long rope was our salvation. The ice cave at Camp IX was buried deep in snow, and on the next day we had to turn back and upwards! It was impossible to get over the gendarmes with loads, as on the previous day we had had some falls and the porters were rather nervous. We brought them back to the ice cave and then, without loads, made the largest of the avalanche-shoots passable. On *October 10* we threw half the baggage over the edge on to the glacier, 5000 ft. below; then we could face the descent with lighter loads. For 2 full days we worked

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our way down to Camp VIII. Kraus, Thoenes, and the two porters had arrived there in good condition. Aufschnaiter and Beigel were *en route* between Camps IX and VIII during the very bad weather of the 7th. By nightfall they had reached the horizontal part of the arête at 19,680 ft. They could get no further: avalanches and falls had robbed them of their rucksacks and they had to pass the night here without food or shelter from the cold. The next day they continued their way down to Camp VIII, Beigel's toes frost-bitten.

During these days all communication between the separate camps broke down; in Camps VII, VI, and III our men were sitting surrounded by snow walls 5 to 6½ ft. high. We got through from Camp VII to Camp VI in one day, those below having stamped a route for us half-way. We then had to evacuate the latter camp with the few porters fit for duty. The porters acquitted themselves splendidly in spite of the hardships they had been through; they carried 150- and the sahibs 60-lb. loads. In grand weather we now trekked for 4 days through glittering snow to Camp III, and relieved Leupold of his uncertainty and loneliness. At the snout of the glacier we again encountered bad weather. It snowed and rained for 3½ days without stopping. The snow-covered bamboos and rhododendrons made our passage particularly difficult. We could no longer carry Beigel, who was obliged to walk. Avalanches crashed through the virgin forest and over the rock walls; pools of knee-deep snow-water covered the surface of the jungle for mile after mile. On *October 20*, at about 11 P.M., the last two members of the expedition came into Lachen, while landslips from far up on Langebo thundered into the gorge in front and behind. A week later we reached Darjeeling, Beigel travelling to Calcutta direct.

PAUL BAUER.

[It has been found necessary to abridge this account; the full narrative will be found in the *Himalayan Journal*, 1930. Dr. Bauer's complete story, now in our possession, we hope to publish shortly.

We express our warm thanks to Dr. Bauer, to which we would add our congratulations on the safe return of the party, as well as a tribute to the great feats achieved, both in altitude, endurance and skill.—*Editor* 'A.J.']

TWO VARIATIONS ON THE TRIGLAV (N. FACE).

[These two routes describe *opposite* ends of the system of ledges. The second is by the 'buttress' to the W. of the 'Black Gully' and was accomplished in the following year. The great N. face or wall of the Triglav is nearly 2 miles wide and about a mile in height.]

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The 'Black Gully' Route.

A NUMBER of routes lead up to the Triglav summit. There are the ways through the Kot and Krma Valleys from Mojstrana; the engineered 'Prag' and 'Tominšek' paths leading more directly and over stretches of rock, from the head of the Vrata Valley; and finally there are the paths leading up from Bohinj, which are longer and, as a rule, not patronized by mountaineers except for the descent.

To the Alpine climber the irresistible attraction of the Triglav lies in the immense N. face, that wall of more than 1000 m. in height. So far there were practically three recognized routes for scaling the N. face—the 'Austrian,' the 'Slovene' (Tuma, Kunaver), and the 'Jug' routes, the latter first followed completely in 1928 by the Slovene mountaineers Jože Čop and Stane Tominšek (son of the President of the Slovene Alpine Society), who decided to give it the name of the founder of modern native mountaineering in Slovenia, Dr. Klement Jug, who lost his life on the N. face of the mountain in 1924. A few days later the same fate overtook the young Vladimir Topolovec,[1] who fell from just below the top of the wall, 500 m., to the bottom of the tremendous black scar seaming the middle of the face and known as the Črni Graben, or Black Gully. All attempts to reach the spot where his body lay had proved unsuccessful.

It was just this circumstance that prompted my friend Jože Čop and myself to study the face in the winter of 1927–28, with the special view of finding a way of getting into the Black Gully. We came to the conclusion that there was a way, although a very difficult one. Not long ago we succeeded in interesting Dr. Stane Tominšek in our scheme, with whom we set out one fine day to reconnoitre the terrain and make sure of access to the gully.

On August 27, at 9 A.M., we got on to the face by the usual approach to the 'Austrian' and 'Slovene' routes and followed the 'Austrian' route for some 200 m. up to the point where a grass-grown ledge turns off to the right from terrain overgrown with dwarf willows. By following this ledge we came to a small shale-lined hollow, beyond which we continued towards the right by ledges till we came to a small chimney formed by the open wall and a small tooth jutting out from it. We scaled the tooth by the chimney and then resumed progress by the ledge to a second tooth rather higher than the first. This we climbed by a wide, reasonably steep 'gutter.' Here the ledges cease to lead further to the right, so we

[1] When, in 1924, Vladimir Topolovec's friends found themselves, after heroic but fruitless efforts, compelled to give up the attempt to recover his body, Father Jacob Aljaž, the aged parish priest of Dovje-Mojstrana, consecrated the face and read the funeral service at the foot of it, so that the remains of the young mountaineer might repose in hallowed ground.—F. S. C.

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Photo, Janko Škerlep.

TRIGLAV. N. Face.

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were compelled to turn straight up the vertical wall by a narrow crack—about 8 m. high—at the top of which we came to a shale-strewn ledge. On this ledge Čop drove in a piton for security; but it was not firmly driven in, and it was lucky that, as I followed him, I came upon an iron piton firmly driven into a crevice, as if expressly for us. Probably it had been left there in 1926 by two Bavarians [2] who traversed thence into the 'Austrian' route. When we had snapped a *Karabiner* with the rope on to that piton it came in most useful, because the wall below was cut away quite sheer for 300 m. or so. By the ledge we climbed some 5 m. to the right to a roofed recess, and 2 m. beyond that straight up, across an overhang and by a smooth crack to another ledge, splaying out at both ends. So we negotiated another bulging overhang, above which we drove in a piton, as there was not enough handhold, and reached an easy step—moderately inclined and almost horizontal slabs—and so to the beginning of the Black Gully.

The Black Gully is a great scar, very wide, some 500 m. high, shut in on either side by black cliffs, scoured perfectly smooth, and lined with slabs polished and broken up by avalanches and strewn with stones and shale. In some places the inclination is moderate, but after every one of these places comes a step, sheer, smooth and high. At the very outset we came upon two such impassable steps [3] which fairly took our breath away for the moment. But as we looked around we discovered their weak point to the right. We also built a cairn here.

Then we got out our longer, 50 m., rope and began to climb. From our ledge we followed a smooth and fairly high chimney with an overhanging step somewhere about the middle. Čop negotiated it by wedging, but experienced difficulty in doing so, as it really is very hard. At the head of the chimney we had to break out to the left in order to round an overhanging bulge, thus gaining a rocky promontory up which I hauled our three sacks on a rope as we found it impossible to climb with them. Stane followed, after tying himself to the 25-m. rope as well, because 50 m. were no longer sufficient. After the promontory came another fairly difficult step, across smooth slabs tilted outwards to a broad ledge close to the watercourse at the bottom of the Black Gully. And so we rounded the first great step. The second is higher and equally unscaleable. We therefore followed the ledge upwards to the right and got on to a second ledge, higher up. At the edge of the wall we were able to turn left again, upward through two fairly easy chimneys debouching on the top of the second step. Thence we proceeded back by ledges to the trough of the gully, negotiable here,

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[2] *A.J.* **39**, 333.

[3] 'Prag' = literally threshold. The 'Prag' Path takes its name from a rock of this type. You go up the sheer face by iron rungs.—F. S. C.

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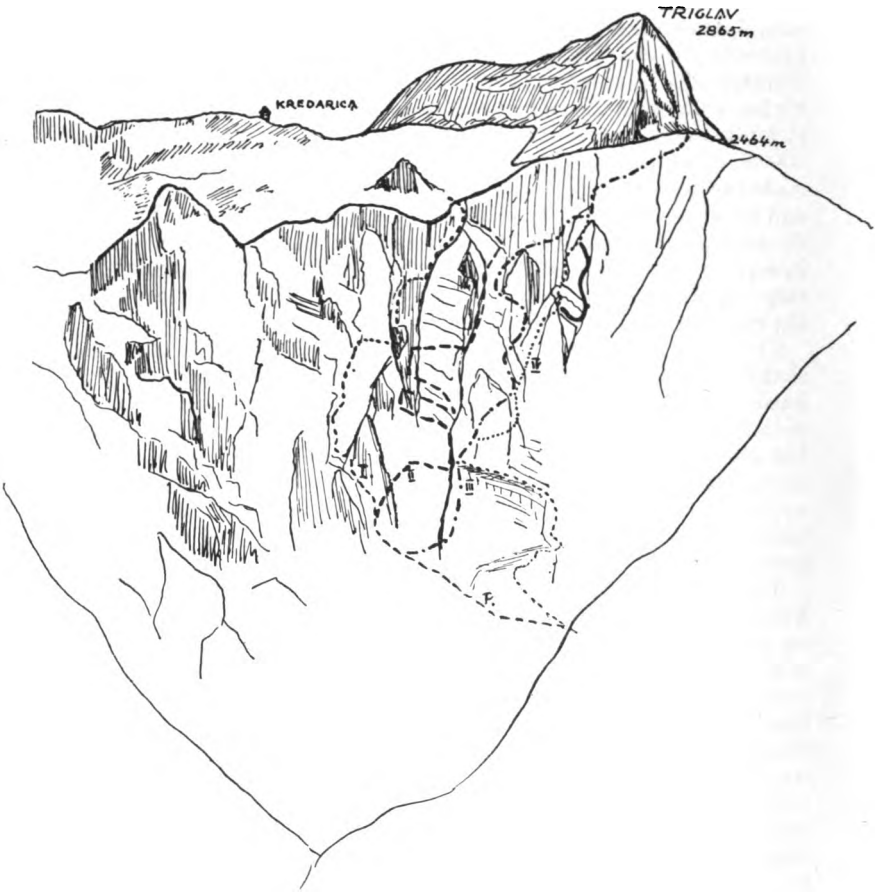
for some time. Suddenly Čop halted, and from under the rubble drew out a bit of brown check cloth, all torn and perished—the first trace of the dead Topolovec. We climbed on and up two flattened



Drawn by Oskar Delkin.]

TRIGLAV, N. FACE. (Central part.)

steps with good holds, because every scrap of rotten stone is carried away by avalanches and the water flowing over the next step higher up. Beneath this step Čop dug up a leather belt from under the stones, which we took away for Topolovec's relations. We got a fair distance up the gully, but at last further progress was blocked by a very lofty, beetling step. We rounded it by a rubble-strewn, inclined terrace to the right, thus gaining the ridge of the buttress

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forming the right lip of the Black Gully from the base to the top of the wall. The inclination of the buttress is not extreme just here. It forms a gently inclined ridge, rising again later into perpendicular heights with tremendous precipices falling away on either side. On this ridge we built a big cairn, deposited our sacks, and ascended by a wide ledge into the innermost recess of the Black Gully to look for further relics of our dead friend. This, after all, was our principal object, to discover some definite trace of Vladimir Topolovec, and then to return down the face to Vrata if we should find it impossible to gain the top. The return would be very difficult; still, we could have managed it, because we had quite 20 pitons and 75 m. of rope (50 + 25). That recess was like a monstrous mortuary. No gleam of sunlight ever falls in there. Every few yards we found torn fragments of Topolovec's kit all buried in débris and terribly battered. So far as we could judge, the poor lad had fallen a sheer 500 m. We did not find any remains of his skeleton. As we looked upon these fragments, upon the grim, dripping walls and precipices, the gloomy view around, it was as if a grip of cold iron had tightened about our hearts.

When we examined the rock ahead of us, we realized that it did not look so terribly forbidding after all, and that it might be possible to find a way up, though probably an exceedingly difficult one. We were only at the beginning of the main problem of the wall towering some 500 m. above us. Down below, though very difficult in places, the face presents the difficulties of a normal rock climb. In this upper part of the ascent the work becomes serious.

Čop proposed that we go back to the ridge, where we had originally thought of bivouacking, collect our sacks, and climb another 200 m. or so, for we had still some three hours of daylight. We should be sure to find a suitable spot for a bivouac, for we had noticed some wide ledges farther up. Tominšek and I of course readily fell in with this suggestion. We returned to the ridge and then back into the gully. From the innermost recess we climbed up its left side by a smooth and vertical crack, with brittle rock, to a rounded overhang. To avoid that, we had to traverse to the right and get above the overhang by some steeply inclined slabs. Then straight up again—a difficult, exposed step where there was no proper anchorage. At one very exposed point we drove in a piton which we took out again after using it. In this way we made about 100 m. Just above us the wall now became unscaleable, smooth and wet. On our right, however, the last step was less steeply inclined for a few yards in the middle and seamed by a conveniently horizontal shelf leading very far to the right across the whole rampart. In the middle of this shelf we refilled our flasks from the water dripping down from above. Then we climbed the sheer and exposed face to a higher ledge, reaching by that the right edge of the step and the precipitous edge of the main buttress. Then we made quick progress by this edge, open rock and cracks, till we turned off to the left from the

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buttress by a wide ledge. On this ledge we decided to bivouac, as it was already 7 P.M., and the rock ahead of us smooth and inclined at an angle of over 80°. We took off our sacks, untied the ropes and got to work. With our hammer we raked out stones and gravel so as to level our ledge which was some 3 m. wide and canted outward; we carpeted it with our ropes and empty rucksacks, and then pitched Tominšek's tent, which we pegged firmly to the rock and the ground with pitons. We had just finished this job when night closed in, still, clear, and starry. We crawled into our tent and lay down to rest. We tied ourselves together by our belts to prevent anyone rolling off our perch in his sleep, and so dozed off on our stony couch. Without, the wind rose, but within our tent the air got nicely warmed up, so that the cover got all wet outside and the water began to drip. It would have been warm enough if there had not been such an icy draught from below that we presently began to shiver and our teeth chattered. We slept very little, Čop not at all.

Next morning, August 28, at 7 A.M., we resumed climbing. We tied ourselves to the longer of the two ropes and climbed, all together, up a series of short steps connecting a series of ledges, up to what proved the stiffest part of the whole climb. It consisted of a great projecting rocky bastion quite sheer and overhanging in places, shaped roughly like the bows of a big barge with an overhanging roof, with the ridge of the buttress as its bows. To the left of the buttress the bastion is seamed by a very narrow crack, interrupted half-way by a tiny ledge, level, bare, and twice as wide as one's hand. From this ledge the crack extends upwards for another 4 m., then shallows, and at the most critical point loses itself in a smooth slab under the great overhanging eaves of rock. From the roof our route led to the left over an overhanging step into a short vertical crack, and then the angle of inclination became normal again. We negotiated this bit as follows: Čop climbed ahead to the crack and at once drove an iron piton in at the foot of it. By the help of a few sound holds he got on to the narrow ledge. It was extremely hard work and had to be done very cautiously. Above the ledge he drove in another piton, so as to secure himself and me, as I followed him—both without sacks, of course, as a rucksack is only a danger and a nuisance in a place like this. Then getting close together, I stepped on to the ledge, legs wide apart. My left hand found a small hole to hold on by; my right, grasping the rope with which I secured Čop, was in the crack, and my head I leaned against the rock. When I was thus firmly anchored, Čop climbed over me, stepped on to my shoulders, looking for a suitable place to drive in a piton, but without success. Accordingly he mounted higher, on to my head, and after a brief search began to hammer in a piton. He hammered and hammered, and meanwhile my legs began to tremble with the strain till we both swayed above the abyss. At last the piton was firm and the rope passed through the *Karabiner.*

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Čop hoisted himself up from my head, but failing to reach a fresh foothold, had to step back. He took off again, this time finding handhold and precarious foothold whereby he got safely up the 4 m. through the crack and on to a safe platform. There he had to rest. Čop again drove in a piton at his resting-place, and used it, first as a hold and then as a step, as he drove in the next, by help of which he got up a little higher under the eaves I mentioned before. Čop's achievement here involved as much exertion as danger, and if I had not seen it myself I should not have realized how much a man can do. Meanwhile Čop proceeded with every precaution, driving in a piton wherever he could—he used more than 10![4] Several times he called out to me to keep good hold of the rope, as he might fall at any moment. And I clung desperately to that slender link on which depended all our lives. But Čop did not fall. On the contrary, he gained height inch by inch. Below the eaves he turned off a yard to the left to take another rest on a bit of safe ground, so as to gather new strength to overcome an extremely difficult overhang with small and insufficient holds. This, too, he managed splendidly. Above this overhang he again drove in a piton, holding on with two fingers of his left hand. Then he negotiated the last, still extremely difficult bit—an overhanging crack—reaching good and safe anchorage, where he proceeded to drive in three pitons, all close together, so as to belay me as I climbed up after him. First I hauled up my sack to the little shelf. Tominšek had stuffed Čop's into it as well. Next he followed himself, and then waited until I had reached the last piton but one, well secured, although the rope did not run very smoothly on account of the large number of pitons. Still we managed it all right. Then Tominšek came on after me, collecting the *Karabiner* from the pitons and retrieving three of the latter as well. The rest were too firmly driven in, and we had to leave them where they were. Meantime Čop, who had given up his place to me when I reached him so that I might secure Tominšek, had slipped off the rope and gone ahead to reconnoitre the terrain, which now became easy. Soon Tominšek joined me, and I went on to where Čop lay on a grassy ledge farther up, exhausted after his

[4] I understand it was the Bavarians who introduced the wholesale use of pitons here. I never heard of their being used before 1925 (so far as I can remember), or even 1926. My students who went to study medicine at Innsbruck learned the use of pitons in Tyrol. Čop, being an ironworker, makes his own—good hefty pegs and eye-bolts, heavy to carry and very reassuring in appearance! My 'Innsbruckers' showed me some *Mauerhacken* which had nothing of the hook left about them but the name. They were of steel, very slight, leaf-shaped, and with a ring through one end. It was hard to believe that they would stand any strain likely to be put upon them and hold fast if only half an inch were driven into the rock!—F. S. C.

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exertions, so that I again held Tominšek while he hammered out the last three pitons. Over this short stretch—about 40–50 m.—we had taken a good 2 hours, which speaks for itself. Čop declared that it was the toughest rock scramble he had ever tackled, while Tominšek protested that our bastion was stiffer by 50 per cent. than the Špik N. face ! [5]

When we were all together once more, we tied ourselves to the short rope and bore to the right, up a grassy slope to the edge of the buttress. By that edge we made good headway, all together up cracks and chimneys and open rock, until, after a spell of easy, straightforward climbing, we left the wall at 10.30 A.M., beside the 'Bovec' snow patch close to the 'Kugy' ledge (*Ringweg*), and very near the highest point of the N. face. A strong wind and mist greeted us, so we hastily built a small cairn, hurried by the 'Kugy' ledge to the glacier, and thence to the Triglav House on the Kredarica, still in our rope-soled shoes, as we had left our boots below at the foot of the great wall.

We had spent 26 hours on the face without a hot sup or bite, and all the time on the strain. On the way down we changed back into our boots, which we retrieved below the face; the bags we left there as mementoes.

We decided to call our new route the *Gorenjska Smer* (Upland Route), and by this name be it honourably known, side by side with the 'Austrian,' 'Slovene,' and 'Jug.'

MIHA POTOČNIK.

[The date of the expedition was August 27–28, 1928. The party consisted of Messrs. Jože Čop, Stane Tominšek, and Miha Potočnik.]

The 'Buttress' Route.

[August 9–13, 1929. Miss Pavla Jesih and Milan Gostiša.]

From the Aljaž House in the Vrata Valley the party proceeded by the path on the left bank of the watercourse, and on in that direction as far as the junction of the Prag path with that towards the Luknja, and thence by steep grass slopes to the foot of the wall or face.

A short spell of climbing took us to a very wide ledge. We followed it for a considerable length upwards W., and so to a ledge branching off E., and leading to the foot of the first tower. Then up a steep cleft and chimney W. of the tower into a vertical cleft, and so to the foot of a second tower. There we left the cleft, traversed E., then up a steep step and back again into the cleft. We left this by an opening formed by three big stones wedged at the back of the tower and so on to the top of it. From the top we crossed E. to the face and followed an inclined cleft to the third tower. From there we followed the inclined cleft to an enormous overhang. Here we found the highest piton left by those who attempted this ascent

[5] *A.J.* **39**, 138–41.

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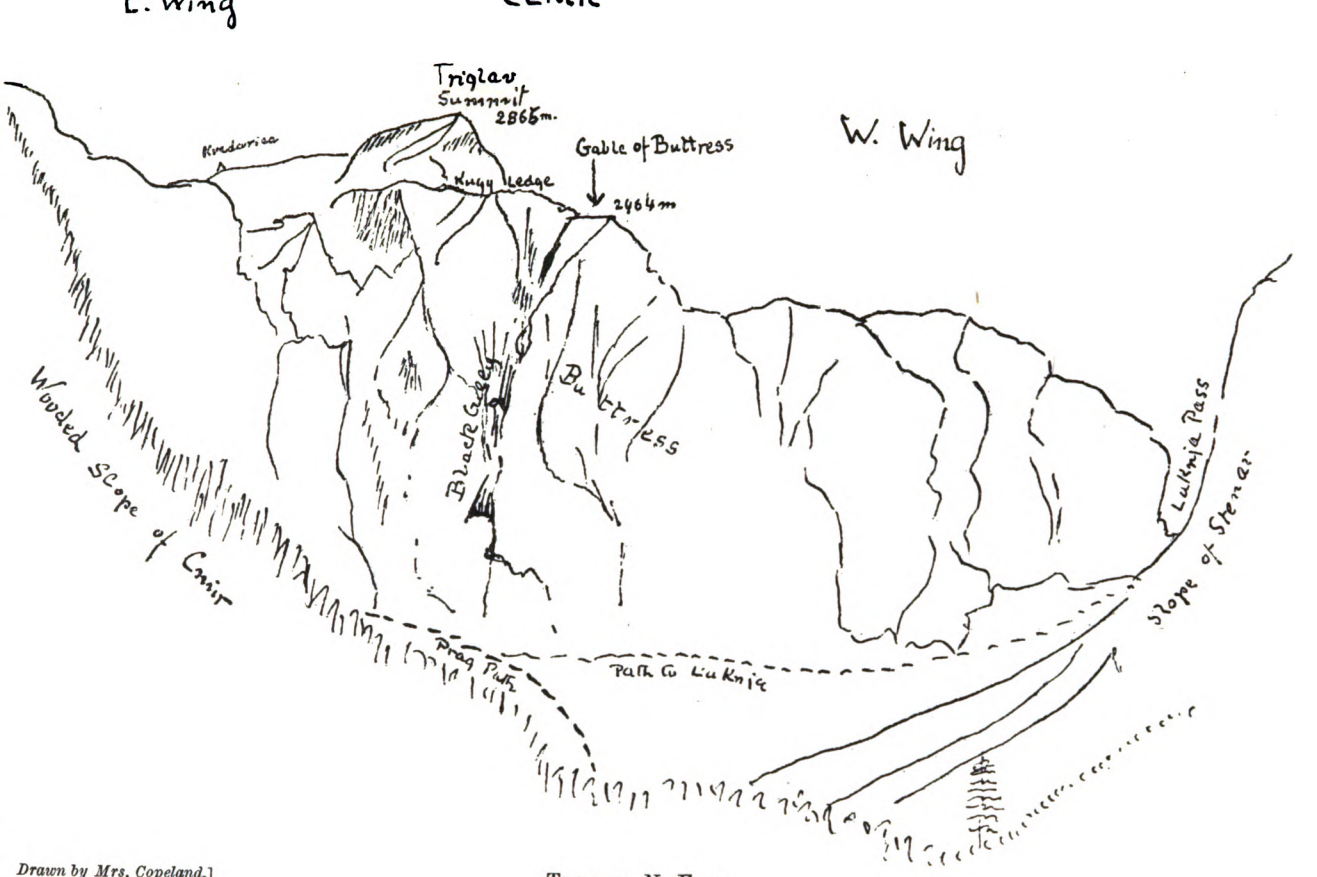

TRIGLAV, N. FACE.

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before us in 1928. There are a good many more pitons around the third tower. We crawled under the overhang along a very narrow shelf, and by that moving E., round the ' bulge ' and into a perpendicular, grass-grown little groove. I take it that for a stretch of about 10 m. the inclination of the wall must approximate [?] 90°. By this groove we climbed as high as possible under a second overhang. But further upward progress proving impossible, we were compelled to trust to precarious foothold about half a metre to the E. All depended upon our being able to drive in a piton here, for which operation there was only one hand free—the left. That spot proved the key to the whole route.

More or less secured, we traversed 3–4 m., E., into the perpendicular grassy groove, and up it to a smooth and narrow little shelf which gave us an opportunity for a rest, very welcome at that juncture, as we had every reason to be satisfied with our progress so far. In negotiating the last 10 m. we had been obliged to pass the rope through 6 *Karabiners* which the leader had to drive in and fix.

From there we proceeded by an inclined cleft leading W. and to the wide ledge where we found intact the cairn built by us in 1928; when having got thus far, we had to turn back because of extremely unfavourable weather.

Up a rock face, rather less steeply inclined, a little to the E., then W. to the smooth slabs which look from the valley like an enormous oblong loaf of bread. Climbed E. below them by a wide chimney and brittle rock to a broad ledge, rubble-strewn and sloping outwards, which narrowed as we advanced. Progress continued by this ledge always to the E. by scanty footholds to a small cleft, then upwards by the cleft for a few metres, back to a higher ledge and thence into a long steeply inclined groove. This soon narrowed and was blocked at the top by a large round chockstone. We avoided the latter by crossing a kind of roof it had. The groove became overhanging, so we turned E. to a pile of enormous rocks. From the top of that we *descended* a little way to some brown upright slabs, traversed them to a narrow shaly ledge, then went W. along that into a recess, then back by a narrow ledge into a groove by which we climbed up to the first series of ledges inside the Black Gully. We built a cairn and bivouacked. From the base of the wall to this spot we had taken 11 hours.

These ledges are not visible as such from the valley; they face inwards, appearing like interrupted intersections of the great buttress.

Before turning in, however, we traversed into the Black Gully (for water) and reconnoitred the terrain for the continuation of our route. But it was not until the following morning that we fully realized the enormous size of the rocky complex formed by the systems of ledges radiating, so to speak, from the trough of the Black Gully. It is very difficult to find a way up. First we tried the crest of the buttress, but that would not go. So we traversed, as we had done the day before, by ledges into the Black Gully and

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tried to scale the smooth and fairly high step, but had to turn back again. So much time did we spend in fruitless search that it was 10 A.M. before we entered an inclined gutter off a ledge about midway between the ridge and the Black Gully. We followed the gutter upwards by fairly well broken-up terrain, where our long search was finally rewarded by our finding a way over a lofty overhang to a fairly wide ledge where stands the cairn erected by our friends (Jože Čop and his party in 1928.—F. S. C.) on their way up the Black Gully. It was now late in the afternoon. The summits were all disappearing in a blanket of clouds, and we thought it wiser to choose a spot for our primitive night's lodging; bivouac, only 4 hours real progress all day.

That ledge was the last of the system. The buttress became less and less broken up and very overhanging. From there the last of the ledges leads back into the Black Gully with a sharply inclined downward tendency (E.). As our purpose was to climb by the buttress and not by the Gully, we did not follow it, but traversed W. into the angle formed by the junction of the buttress and the face. By that to a chockstone, and thence by a narrow little ledge back to the buttress. We crawled on our stomachs to a narrow little gutter up to a point where it was blocked by a big rock. Throwing the rope up over the chockstone forming a huge overhang, we pulled ourselves up. For a while the gutter was moderately steep, but then continued at such an angle that further progress became impossible. So we pulled out E., by very precarious footholds, crossed the ridge into a neighbouring gutter, negotiated an overhang, and then climbed by the crest of the buttress to a ledge succeeded by three more ledges, all radiating, like those farther down, from the Black Gully. So we turned into the Gully by the first ledge to a patch of snow, skirted this, and then got on to the last and narrowest ledge. That day we had thunderstorms from 4.30 A.M. to 10 A.M., so that we could climb for a very short time only—about 8 hours—gaining but little in altitude. At 5 P.M. we had to stop again on account of heavy rain. (The Vrata Valley is very deep and narrow, and when thunderclouds get fairly trapped in it, and the storm breaks out, the effect is terrific, quite apart from the danger of being struck by lightning.) So we bivouacked for a third time on the ledge just described.

As rain and mist continued throughout the whole of the following day, we had to put in a fourth bivouac as well. On that ledge our buttress route joins the 'Upland' (Upper Carniolan) route (Gorenjska Smer), and coincides with it to the top of the face.

[Translated from the MS. Report by Miss Jesih and Mr. Gostiša in the Climbers' Book of the Tourist Club 'Skala,' Ljubljana. Since this account was written, a large part of the route was again ascended by Messrs. J. Čop and M. Potočnik, who, having fine weather, climbed the face between dawn and dusk of one day. They agree in declaring that this route and their own 'Black Gully' are the most

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difficult ascents by far as yet achieved in the Julian Alps. It has been decided that the 'Buttress' shall be known as the *Skala Route.*—F. S. C.

No further comment is needed. We congratulate the August 1929 party on their endurance and escape.

We would express our warm thanks to Mrs. Copeland for the great trouble she has taken in translating and forwarding to us these interesting accounts of modern exploits by our Slovene colleagues.—*Editor,* 'A.J.']

Notes to Illustrations.

1. The photograph shows the full width of the Triglav Wall as well as any genuine photograph can. Only the extreme left East Wing is cut off by the wooded lower slopes of Cmir. If the climbing routes were drawn in, the base of the Slovene and Austrian routes would be hidden. The photograph is by Mr. Janko Škerlep, Ljubljana.

2. Sketch of the central part of the Wall (after a photograph) on which four routes are indicated :—

I. Slovene Route ('Tuma' Chimneys).

II. Austrian Route. It is really the 'central' variant of the Austrian Route usually followed, with the egress on to the 'Kugy' Ledge, rather farther W. The Austrian first ascent of 1906 (König-Reinl-Dommenig Route) is given in *Der Bergsteiger,* Oct.-Nov., 1929.

III. 'Gorenjska Smer' (Upper Carniolan or 'Upland' Route). First ascended by Jože Čop and his party in 1928. This route starts at the same point as the Austrian and Slovene routes, then makes for the Black Gully (*Schwarzer Graben, Črna Grapa*), follows that until it merges in impassable rocks, and then finishes over the gable of the Triglav Buttress, as native mountaineers have decided to call the big rock promontory that juts out from the central part of the faces.

IV. 'Skalaška Smer' ('Skala' Route). First ascended by Miss Pavla Jesih and Mr. Milan Gostiša in 1929. It starts considerably to the right (West) of Čop's route, touches it on two places, but keeps to the edge of the Buttress, until it joins Route III definitely on the gable.

Szalay's route runs still farther W., and emerges on the W. face of the Buttress gable. See *Der Bergsteiger.* It is stated that Miss Jesih's route is not correctly indicated there, but starts farther W.

The 'Jug' route ascends the extreme right (East) wing, and is not indicated either. The sketch is by Mr. Oskar Delkin.

P. denotes *Prag Path.*

3. A pen-and-ink transfer of Mr. Škerlep's photograph with the names of the different points written in, drawn by Mrs. Copeland.

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A Traverse of the Täschhorn and Dom.

Towards the middle of the memorably wet month of August 1929, Letts and I, temporarily bent on sociability rather than climbing, arrived in Saas Fee. We had planned to spend several weeks in Dauphiné, accompanied for the first week by Leslie Letts's brother, but after climbing Les Bans in cloudless calm and traversing Mont Gioberney from the Col du Says in driving mist and snow, two further days of almost continuous rain, coupled with the barograph's dead straight tracing near the bottom of the scale, proved too depressing. Letts's brother went home two days before his time, and the other two of us, feeling that bad weather called for good company, moved round to Saas Fee. Our welcome from the cheery party assembled there under Mr. C. H. Pasteur's genial sway removed our depression, even though Nature's remained.

After several wet days we were fortunate enough, by means of an early start made just as a long downpour ceased, to have a pleasant and leisurely day on the Portjengrat, though persistent clouds over Italy deprived us of the famous view over Lake Maggiore. But this was more than compensated by the lifting, or rather the sinking, of the clouds over Switzerland. We had reached a point high up on the lower slopes of the peak at which, owing to our lack of local knowledge, a glimpse of the mountain became essential if we were to proceed, when suddenly the mists dissolved around us, revealing in the foreground a dark blue pool cradled in a basin of snow, and in the distance, floating on a sea of cloud under a sky of still deeper blue, the whole range of mighty peaks from Monte Rosa to the Lenzspitze and Nadelhorn, glittering with fresh snow. Visions such as these, instantaneous and sublime, leave one spell-bound; their memory is cherished and imperishable.

That day was the first of four successive fine days, broken only by a heavy thunderstorm on the third afternoon. On the second of these days Mr. Pasteur and his daughter, with two guides, ploughed their way knee-deep through soft snow up to the Mischabeljoch, a good test of endurance under such conditions, and the account they brought back from their leading guide of the traverse, occasionally done, and last effected from a bivouac on the Mischabeljoch, of the whole ridge comprising Täschhorn, Dom, Lenzspitze, and Nadelhorn, roused the ambitions of Letts and myself, and we decided to attempt a similar expedition, if conditions permitted. In the event the first two peaks proved sufficient and we were content to omit the other two.

The double traverse of Täschhorn and Dom has, of course, been done fairly frequently, but accounts in general appear to show that conditions on the N. ridge of the Täschhorn are exceptionally variable. This ridge, which is fairly level at each end and correspondingly steeper in the middle, rises just under 700 ft. in some

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660 yds. When in good condition it has been described as steep but beautifully firm rock, ascents of 1 to 1½ hours being recorded by the early parties. On the other hand, on August 16, 1895, the Hon. Gerald Fitzgerald, with Ulrich Almer and Fritz Boss, took 3½ to 4 hours for the descent, sheltering several times from a cold wind under corniches. The times for the ascent or descent of the steeper S. ridge of the Dom vary less, being mostly between 2 and 3 hours. Owen Glyn Jones's time of 2¾ hours from top of Dom to top of Täschhorn on September 10, 1898, was, of course, exceptional.

For several seasons Hugh Pasteur, Letts and I have climbed together, but this year Pasteur was unable to come out. Accordingly Leslie Letts and I, being both of us believers in a party of three for a big expedition, engaged Mr. C. H. Pasteur's second guide, Oskar Kalbermatten, a young and enterprising fellow, to whom the whole ridge from the Mischabeljoch to the top of the Dom was new, an added qualification in our eyes. As things turned out we were glad that we took him, for we both agreed that under the conditions prevailing on part of the climb we should not have gone forward had we been only a party of two.

So on Friday, August 16, the fourth of the fine days, we moved off after lunch and strolled up the Lange Fluh to the little shed, formerly a tea shop, but now fitted up with stove and blankets, at which we proposed to rest for a few hours. My sister walked up with us, and after an early supper together she went down and we three turned in at 7.0 P.M.

We had planned to be away at 10.30 P.M., but we overslept and only woke at that hour. Hurriedly we brewed tea and ate a meal which, with the aid of Einstein's theory of relativity, we called first breakfast, and were off at 11.15 P.M. A half-moon, though already below our horizon, gave sufficient diffused light to render the lantern unnecessary; summer or storm lightning, we knew not which, flickered in the distance. Roping up almost immediately, we crossed the glacier to the rocky spur running due N. from the Alphubel, which in turn was crossed at a point of marked disintegration by a winding route terminating with a scrabble by friction up a smooth and holdless slab of moderate angle. In the absence of a previous reconnaissance, Kalbermatten's local knowledge was invaluable here, as also on the dry glacier just above, where he led us unerringly among big crevasses until we hit the tracks of Mr. Pasteur's party where the snow began. These we followed over good snow to the Mischabeljoch, which we reached at 3.0 A.M.

For the last half-hour clouds had begun to gather from the S., but somehow the weather neither looked nor felt bad and we expected only mist on the tops, a forecast which proved correct. The moon having now set, we lit the lantern and, after halting for 25 minutes for a relatively second breakfast, proceeded to tackle the somewhat steep and loose but otherwise easy rocks at the foot of the long S.E. ridge of the Täschhorn. Once up these the going was good,

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Photo, V. Sella.

TAESCHHORN and DOM from ALPHUBEL.
Showing the F. LOCHMATTER-YOUNG-RYAN Route, 1906.

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sometimes on rock, more often on snow in excellent condition, while occasionally short slopes of ice necessitated the cutting of a few steps. With the early dawn, about 4.45 A.M., the lantern was put out, and we gazed in the half-light over the forbidding S. face of the peak, the scene of Winthrop Young's memorable climb, but without being able to identify his terrible overhang. About 5.15 A.M., when at a height of some 13,500 ft., the mists closed round us, and save for a few momentary rifts visibility never exceeded 60 yards until we reached the top of the Dom 9 hours later. We pushed on rapidly and, making good time, arrived without difficulty on the summit of the Täschhorn at 6.50 A.M.

From the start Letts's stomach had been out of order, due, so he said, to the pemmican which has formed our staple evening diet for several seasons, though I unsympathetically attributed it to high living at Saas Fee, and he had been going, for him, thoroughly badly. A tot of brandy after the first hour of the ridge failed to produce any effect, and by the light of dawn he looked so ill that it almost seemed as though we should have to turn back, though possibly Kalbermatten and I might have completed the ascent of the Täschhorn first. He stuck to it, however, and shortly after taking a second tot of brandy he suddenly remarked 'I am feeling better.' Thenceforth he climbed with all his accustomed skill and steadiness, and without any return of the trouble.

It was windy and rather cold, so after 5 minutes on the summit we made our way along the easy initial portion of the N. ridge and then halted in a sheltered spot for a meal. At 7.30 A.M. we moved on again, and then our difficulties began.

Kalbermatten had informed me, while walking up the previous afternoon, that he had been told by another guide who had recently seen this ridge from the Dom that we should probably be unable to make the descent owing to the amount of fresh snow, and almost immediately we were faced with steep slabs, or so we judged them to be, literally smothered with snow and disappearing down into the mist towards the Domjoch. However, while eating our meal a momentary glimpse of the S. ridge of the Dom had shown us that that ridge was practically free of snow and would go if we could get down to it, so we determined to try the descent. It proved to be a veritable cat-walk. The more abrupt steps were all covered with 1 to 2 ins. of snow and could only be negotiated by grasping the rock edge forming the actual crest of the ridge and sliding down sideways, clearing the snow in the process; fortunately the most uninviting one which we tackled in this way proved to have a long crack just big enough for the finger-tips on the far side of and parallel with the edge, thus giving a good sound hold. Where the angle eased off the snow was 6 to 8 ins. deep and partially consolidated, and here we had to judge by that indefinable feel of the foot whether the snow could be trusted or whether its condition and slope were such as to endanger a slip. Wherever possible we stuck to the arête, but on

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a number of occasions some extra steep snowed-up slab or the unstable conditions under foot forced us for considerable distances on to the E. face. This, however, always proved equally uninviting, being composed of steep loose rock intermingled with soft snow and treacherous little patches of ice, with the result that the apparently feasible route not infrequently failed to go and we had to find another. Consequently we were always glad to go up and try our luck on the arête again. A retreat up the ridge, while not impossible, would certainly have been unpleasant, and Letts's remark at one stage, 'I suppose this has got to go,' aptly expressed the feelings of the party. So with great care, often moving only one at a time, we worked our way down, until at last, after a delicate but unavoidable traverse along the steep snow-covered western slope, we saw the Domjoch just below and finally reached it with a certain feeling of relief at 11.0 A.M., the descent having taken 3½ hours.

This descent had been a ticklish business, but with our 120-ft. rope enabling us to take full advantage of occasional sound stances we had been able to make it reasonably safe. One escape, however, we did have, and though such incidents sometimes, from mixed motives, remain untold, this one may perhaps be mentioned by way of warning.

The S.E. ridge of the Täschhorn is described in Ball's *Guide* as usually heavily corniched. After studying this ridge carefully, and the N. ridge to a lesser degree, on the walk up the previous afternoon, I had remarked to Kilbermatten that we should not be troubled with corniches, with which he agreed. The former ridge proved to be almost entirely free, but the latter had one, some three-quarters of the way down, which we failed to observe, probably the only one on the whole descent, though bad weather prevented subsequent verification of this through the hotel telescope. We had just regained the arête from one of our descents on to the E. face, to find the general angle of the ridge beginning to level out and the usual covering of snow on the steepish slabs of the W. face. As we advanced, we moved slightly to the right, where the footing seemed more secure, and so got on to a 6-ft. corniche less than 200 ft. in length, which suddenly gave way. The first man happened to be exactly on the line of cleavage and landed on the ledge of rock which had supported the corniche, where he remained poised. The second man went down, applying what brake he could with his axe. The last man, who was not yet on the corniche, just had time for three or four hurried steps down the reverse slope, but was then brought by the combination of insecure foothold and the pull of the rope into a sitting position in which he was pulled some 10 ft. obliquely down the ridge before coming to a stop. The first and second men scrambled up unhurt, but we realized that our luck had been in; for had the first man been one foot farther on to his right, or had the last man reached the corniche, the consequences must have been more serious.

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Let it be said at once that, judged by all ordinary standards, neither of us considers Kalbermatten to blame for this incident. Theoretically each member of the party ought to have spotted the corniche, whatever the circumstances or his position on the rope, and our failure to do so must be counted as bad mountaineering. But having regard to the difficulty of the actual climbing conditions, involving continuous concentration on every movement, to the low visibility, coupled at that moment with a stinging gust of snowdrift, and to the fact that we had been able to descend on to and ascend from the E. face at will without encountering the semblance of a corniche, I venture to think that the party as a whole can plead some excuse, and that many guides of twice his age and experience, and most amateurs, would have failed to spot the trap. In every other respect his judgment throughout the day was as unerring as his companionship was pleasant. The lesson of the incident is not likely to be forgotten by any of us.

On reaching the Domjoch the advisability of a direct descent on to the Kien Glacier, which could be dimly seen below, was discussed; but as the weather appeared to be holding, and there were known to be tracks off the Dom by the ordinary route, we decided that the ridge ahead, which our one glimpse had shown to be in better condition, would be preferable to the mixture of broken rock and snow visible beneath. The discussion arose, I believe, partly out of shaken morale, the unspoken realization of which helped us to decide as we did. So after advancing for some 10 minutes along the ridge we found a sheltered spot where we halted for a meal, during which a momentary gleam of blue sky confirmed our opinion of the weather.

Getting under way again at 11.45 A.M., we kicked steps up a short and steep snow arête to the first big gendarme, which we turned by the E. face. My chief impression of the next 2½ hours is of gendarme after gendarme looming aloft in the mist. Ordinarily, I believe, the crest of the ridge is followed throughout after the first gendarme, but in the mist the wall leading up to the arête always looked so forbidding that we found ourselves continually bearing to the right and climbing entirely on the E. face. This, for some reason, was much less snowed up than the corresponding face of the Täschhorn, but the rocks were steep and abominably loose. The selection of any general line of attack was impossible, and we took what at a range of some 50 yds. appeared to be the easiest route, with the inevitable result that we encountered several distinctly nasty passages; in particular I remember one traverse across a vertical face where every handhold and every foothold shook. Eventually, however, a little couloir of steep hard snow led up to the arête and, after following this for a few minutes, we found ourselves on the summit.

Here, quite unexpectedly, we got out of the cloud at last and could see the Lenzspitze and Nadelhorn under a grey sky. But the time was now 2.15 P.M.; two valuable hours had been lost on the descent to the Domjoch. We reckoned that it would take

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at least another 5 hours, exclusive of halts, to traverse the Lenzspitze to the Nadelhorn, so that we could no longer expect to reach the Mischabel hut before dark. Moreover, the most interesting part of the climb was behind us, and we were all rather tired. So we decided to cut out the two additional peaks and descend to Randa.

Accordingly, after a short rest, we started down by the deep tracks of the ordinary route. Soon we called a more leisurely halt to satisfy the inner man, after which there followed the long snow walk, interrupted by an unexpected little ice slope, down the Hohberg Glacier, the scramble down the rocks from the gap in the ridge between the Hohberg and Festi Glaciers, and the final bit of dry glacier leading on to the moraine just above the Dom hut, where we unroped at 5.15 P.M. At the hut we rested for 45 minutes while partaking of a bottle of the guardian's wine, then dropped down by the steep and winding path, with the snow-clad Matterhorn looking almost ethereal against the pale evening light, and, after a brief shower of rain, reached Randa at 7.50 P.M., well content with our day.

But we all agreed over coffee and cognac that we should require the N. ridge of the Täschhorn to be in considerably better condition before embarking upon it again.

W. B. CARSLAKE.

DR. PACCARD'S 'LOST NARRATIVE.'

SOME CORRIGENDA AND ADDENDA.

BY E. H. STEVENS.

(*References to pages or notes, without further specification, apply to the article under the above title in* '*A.J.*' **41**, 98–156.)

A. Readers interested in this subject are asked to make the following corrections in the previous article.

P. 104, note 20, line 6, *for* 'Michael' *read* 'Michel.'

P. 108, note 32, *for* '156' *read* '157.'

P. 114, note 66, line 3: better [as G. M. (1), note 53] 'Aiguille d'Envers d'Argentière,' with no necessary reference to the Montenvers.

P. 114. Title of view should be 'Tacul Basin, Mt. Blanc, and the Aiguilles.'

P. 116, note 80, last line, *for* '70' *read* '73.'

P. 116. Title of view should be 'Upper Tier of Rochers Rouges, Upper Ancien Passage. . . .' (Part of the lower A.P. appears on the extreme left; the lower tier of the R.R. and the Corridor would be still farther to the left, off the picture.)

P. 124, note 98, interchange 'that' and 'which.'

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P. 132, line 3, *read* 'Vol. i. §§ 559–561.

P. 132, note 119. Dübi (p. 94), quotes this from a German translation of the *Relation Abrégée*, and it probably applies, not to the Petits Mulets, but to the upper Rochers Rouges.

P. 136, note 128, line 2, *read* 'are *about* 200 *ft.* (*Vallot*) below the top, and as *Whymper* (p. 137) says, can be visited. . . .'

P. 146, line 32, *for* 'Matthews' *read* 'Mathews.'

P. 146. M. J. P. Cachat, the owner of the portrait of Dr. Paccard, was neither the Doctor's grandson nor, as stated in Mathews, p. xxi, his great-grandson, but the husband of his granddaughter, Rosine Marceline, who was the daughter (born in 1835) of his son Ambroise, and married M. Cachat in 1853. The latter died in 1916. (Information kindly supplied by M. J. Couttet.) While Mr. Montagnier was engaged in the hunt for Dr. Paccard's 'Lost Narrative,' he learned from M. Cachat that the latter remembered destroying —somewhere about 1860—a box full of Dr. Paccard's papers, which had been damaged by rats ('A.J.' **26**, 37). Oh, those rats and mice of Chamonix!

P. 154. For date of de Saussure's ascent *read* 'Aug. 3.' For date of Clissold's ascent *read* 'Aug. 20.' (The text of Paccard's diary (Dübi, p. 272) gives Aug. 18, but a marginal note in the diary, omitted in Dübi, corrects this to Aug. 20, which seems to be right.)

P. 155, 5 lines from bottom, *for* '§ 5' *read* '§ 6.'

P. 156, 3 lines from bottom, *delete* 'another.' Whymper's admirable drawing was evidently made from his photograph reproduced in Mathews (p. 104), but the slopes are rendered somewhat narrower and steeper.

B. The following small but significant additions should be made to the text. P. 113, note 60, 'as seen, *e.g.*, from *the Tacul or* the neighbourhood of the Rognon.' P. 114, note 66, at end, De Saussure also calls the mountain Aiguille d'Argentière (in his description of the view from Mont Blanc, § 1991, or Freshfield, p. 232), though the name Aiguille Verte was in use at least as early as 1791 [see G. M. (1), note 53]. Byron writes in his Journal (July 20, 1816), 'I observed the distinct reflection of Mont Blanc and Mont Argentière in the calm of the lake [of Geneva], while I was crossing in my boat: the distance of these mountains from their mirror is sixty miles.' Here Mont Argentière is certainly the Aiguille Verte. P. 114, note 67 (end), 'Muret' is the spelling used by J. M. Cachat and Tournier in their letter to Bourrit about their crossing (the first recorded) of the Col du Géant ('A.J.' **34**, 367). P. 116, note 79, the portrait of Balmat in G.M. (1), p. xviii, shows him wearing crampons. P. 122, note 91, line 4, 'at the Col des Rognes, where the path leading to the Tête Rousse inn now passes,' G. M. (1), note 23. P. 123, line 23, *after* 'Dôme du Goûter' *add* '1½ hr.' and put * in margin (from de S., § 1963). P. 128, line 20, *at* 'steep incline' *add note* 'De Saussure measured this slope as 34° (§ 1982).' P. 128, note 109, line 4, *add* 'De Saussure's party—a much slower one—seems to have

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taken about 7 hrs., including a long halt for breakfast at the lower Grands Mulets rocks' (de S., §§ 1973, 1979; Mathews, pp. 78, 79). P. 147, line 3, 'to be reckoned *the cradle and* one of the chief homes.' P. 147, last line, 'Herr von Lansky also gave a certificate (signed at Morges, Sept. 12, 1786) that he had witnessed the ascent together with "the Baron d'Hernsdorf"' (*cf.* Brand, p. 150), see 'A.J.' **30,** 118. P. 152, (*b*), line 6, 'the discovery *and ascent* of the route he took with Paccard.'

C. In my reconstruction of the 'lost narrative,' some of the gaps in the passages which are derived from Dr. Paccard himself (and printed in italics) were filled by other matter, printed in ordinary type. The very large extent to which these additions were derived from more or less contemporary sources was not made as clear as might be desirable. For this purpose asterisks should be added in the margin at the following places. P. 108, line 14 (and / at end of §); p. 109, line 4 (and / at end of §. The source is de Saussure, § 1104); p. 110, lines 3 and 5; p. 122, § 10, line 2 (de S., § 1963); p. 123, line 2 (from de S., § 1964); p. 125, line 1 (from de S., § 1965), line 15 (from Dumas), line 23; p. 126, line 4 (de S., § 1972); p. 128, line 8 (from Carrier); p. 132, line 12; p. 135, line 18; p. 136, § 15, line 7 (from Carrier), line 15 (from Bourrit's pamphlet); p. 137, line 18 (from Dumas), line 20 (from v. Gersdorf).

D. The following additional references will also be found helpful. P. 100, line 13, 'see "A.J." **26,** 37'; line 19, 'see note 157'; p. 102, line 10, '*cf.* p. 151 (*c*)'; p. 102, note 15: this letter of Paccard's is reprinted in 'A.J.' **26,** 46; p. 103 (*c*): this account was reprinted, with translation, by Mr. Montagnier in 'A.J.' **30,** 116; p. 108, note 36, at end *add* 'see p. 155'; p. 109, note 41, at end *add* '§ 1105'; p. 112, note 54, *add* 'p. 114'; p. 122, note 91, line 8, *add* '*cf.* p. 155'; p. 126, note 102, line 15, *after* 'marked photograph' *add* 'p. 155'; note 105, *add* 'p. 148'; p. 128, line 4, see D on view, p. 155; line 6, see A on same view; p. 129, note 112, at end *add* 'see p. 147'; note 113, line 3, *cf.* view, p. 155; p. 131, note 116, *add* 'p. 147, and *cf.* p. 155'; note 118, *add* 'p. 147'; p. 133, note 122, for Pictet's note see 'A.J.' **26,** 41; note 123, line 2, see Dübi, p. 84; line 5, *read* 'Dübi, p. 288 (extract from Coxe's Travels)'; p. 136, notes 131 and 133, *add* 'see p. 148'; note 134, *add* 'see p. 150'; p. 137, note 136, *add* 'so too Rev. T. Brand (p. 150)'; p. 138, line 23, 'see p. 149'; p. 140, line 27, *add* 'so too G. and M., top § of p. 152, and *cf.* note 97'; p. 144, line 20, Montagnier's opinion is inferred from 'A.J.' **26,** 37, and from what Dübi says on pp. 12 and 18 of 'Paccard wider Balmat.' P. 147, line 18, see sketch I, p. 148; line 26, see sketch II, p. 148; p. 148, line 7, '*cf.* note 120'; pp. 147 and 150, notes 17 and 115 are continued from pp. 103 and 130 respectively; p. 151 (*c*), *cf.* p. 102; next §, for 'Montagnier's contemptuous dismissal of Dumas's narrative, etc.,' see 'A.J.' **26,** 37; p. 155, last §, *add* 'Much of this is still better shown in the view, "A.J." **32,** 21.'

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IN MEMORIAM.

THOMAS CHARLES FRY.

(1846–1930.)

THOMAS CHARLES FRY, born in 1846, was a son of Mr. P. S. Fry of Emberton, Bucks, and came of a family long settled at Axbridge, in Somerset. From Bedford School he was elected to a scholarship at Pembroke College, Cambridge, later gaining a second class in the Classical Tripos. He held masterships successively at Durham School and at Cheltenham College, in the latter case taking Orders and developing into a very popular and successful housemaster. In 1876 he married the daughter of Mr. Edward Greene, M.P., by whom he had two sons. For a short period he was headmaster of Oundle School. When appointed Dean of Lincoln in 1910, he found himself face to face with the problem of the preservation of the Cathedral, 'the flower of English Gothic,' a task which not only called for qualities of inspiration and leadership of the highest order, but also for the collection of funds amounting to some £120,000, before the work could be completed. Dean Fry was not permitted to see his cherished object fulfilled, and in his case there is no doubt that his devoted labours, which had included several visits to Canada and the United States to collect funds, appreciably shortened his already long life: he died on February 10, 1930.

As a mountaineer Fry from the first showed the same qualities of energy, enterprise, and enthusiasm as he displayed in all his other activities, and his acquaintance with the Alps covered a period of exactly sixty years. His first visit took place in 1868, and in the following year with two companions he made the first ascent of the Diablerets by the 'face' of the Creux de Champ without the help of guides, the one engaged proving unequal to the task.

Most of his early mountaineering days were spent in the Bernese Oberland, and on many of these he was accompanied by his wife. Later on he made the Saas Valley his favourite centre, his usual guide being Adolf Andermatten. Mrs. Fry was believed to be the first lady to cross the Laquinjoch. From time to time, in the company of all his family, he wandered further afield to Tyrol, Dauphiné, the Graians, Styria and elsewhere. Many of his favourite peaks he climbed at least twice, as in the case of the Matterhorn, Dom, Mont Blanc, Jungfrau, etc. Among the guides with whom he travelled in his earlier years were J. A. Carrel and Alexander Burgener —while his special climbing companions were R. W. Brant and the Rev. W. Carter.

His last visit to the Alps took place in 1928, shortly after the death of Mrs. Fry, and once again, at the age of 82, he returned to his old

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haunts in the Saas Valley, spending five weeks at the Monte Moro Hôtel, with his old guide and friend Adolf Andermatten, who also was shortly to ' pass over.'

Dr. Fry was intensely proud of his membership of the Alpine Club, though in 1921 he very reluctantly resigned it in order to be able to economize on behalf of the Cathedral Preservation Funds. It was, however, the very great privilege of the writer in 1927 to be associated with his return to our ranks and to witness the great pleasure it gave him to learn that his re-election had been welcomed.

W. W.

ALFRED HERBERT TUBBY.

(1862–1930.)

ALFRED HERBERT TUBBY was born on May 23, 1862, and was educated at Christ's Hospital, to which he remained much attached all his life, being finally a Governor and Almoner of that institution. After leaving school he studied at London University, where, amongst other honours, he gained a first class in Surgery at the B.S. Examination and the Gold Medal, and a first class in the M.B. (London) Examination.

In 1889 he was working in the Universities of Halle, Leipzig and Berlin, and in the same year became Demonstrator of Physiology and Histology at Guy's Hospital, where he carried out various scientific researches.

In 1895 he was appointed Lecturer in Orthopædic Surgery at Westminster Hospital and held many important posts there, being finally Senior Consulting Surgeon. He was also on the staffs of the Royal National Orthopædic Hospital and the Evelina Hospital for Children.

He published many scientific papers, and amongst other works was the author of ' A Text-book of Orthopædic Surgery,' a subject with which his name will always be connected.

He received numerous honours from many Foreign Universities, Scientific Societies and other bodies.

At the beginning of the Great War he was in active practice in Harley Street, and in 1915, being then Lieutenant-Colonel R.A.M.C. (T.F.), was appointed a consulting surgeon to the Mediterranean Expeditionary Force with the rank of Temporary Colonel A.M.S. In that capacity he served in Gallipoli and in Egypt till March 1916, when he joined the Egyptian Expeditionary Force, remaining with it till March 1919. He was ' mentioned ' three times in dispatches and was awarded the C.M.G. in 1916 and the C.B. (Military) in 1918.

In 1922 he retired from the Army with the rank of Colonel (R.A.M.C.).

Returning to London he resumed his practice, but finally retired to Hastings where he lived during the last few years. Gradually

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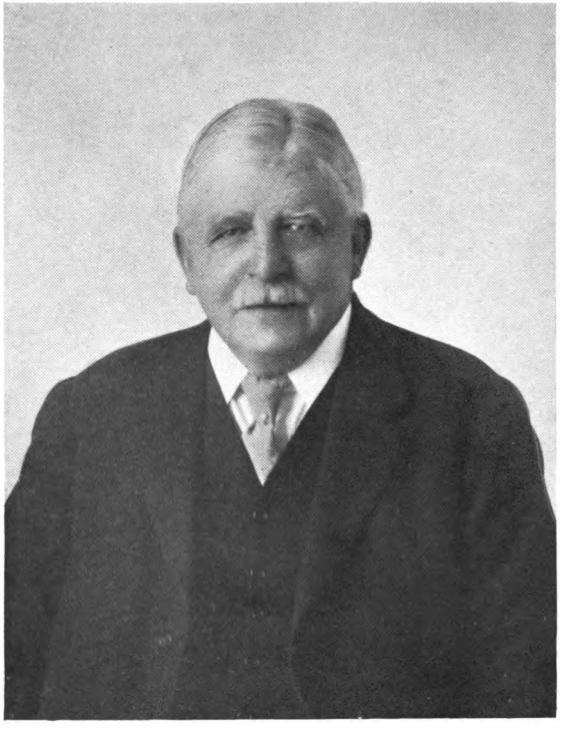
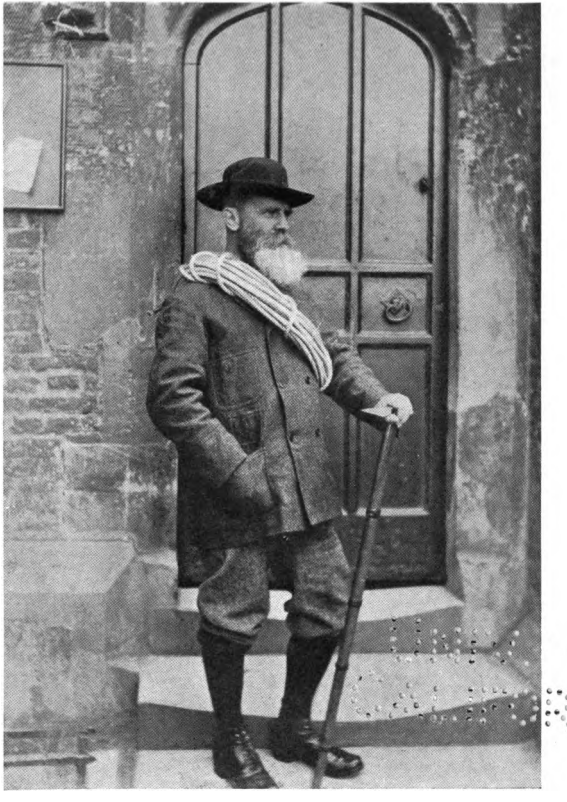


A. H. TUBBY.
1862-1930.



T. C. FRY.
1846-1930.

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his health failed and he died on February 23, 1930, aged 68, leaving a widow and one daughter surviving him.

During his busy and anxious life he never faltered in his great love for the mountains. Going regularly for his annual holiday to the Alps, he took up climbing with his characteristic enthusiasm, and in 1894 was elected a member of the Club. He climbed actively for some years, but in 1901 turned towards mountain sport, and spent many seasons chamois hunting in the neighbourhood of Cortina and afterwards in the Valpelline, his adventures being recorded in a paper which he read before the Club in May 1911.[1] He did good service in the work necessary for the publication of the New Edition of Ball's 'Central Alps' in the district round Davos.

In all that he undertook Tubby was the soul of thoroughness and care. Nothing was too much trouble. So in his friendships Tubby was the very essence of steadfastness; nothing would shake him. He leaves behind him the memory of an indefatigable worker, a true friend and a devoted lover of the mountains.

J. J. W.

ADAM FOX.

(1872–1930.)

MR. ADAM FOX, elected a member of the Alpine Club in 1903, died on February 3, 1930, after a short illness. He was the senior partner in the firm of A. & G. W. Fox, Solicitors and Notaries of Manchester. He was the son of Mr. Adam Fox, the original member of the firm. Mr. Fox was 57 years of age. He was a past President of the Manchester Law Society, and was Treasurer at the time of his death. He was educated at Shrewsbury School, and later took up cross-country running as one of his sports. Tennis, cycling, walking, and climbing were his additional recreations.

He commenced his Alpine career in 1898, but had for some years previously practised rock climbing in Cumberland and North Wales. At that time Haskett-Smith's book was almost the only published source of information for the rock climber, and many of the classical rock climbs were in process of making. In the course of his annual visits to the Alps, including the Dolomites, down to the outbreak of war in 1914, Fox had climbed in most districts from the Tarentaise to Eastern Tyrol, and had made quite a considerable number of first-class ascents. He was a sound and safe climber, especially on rocks. He was an excellent mountaineering companion, and had a never-failing fund of quiet humour. This quality would often, under trying or adverse conditions of a climb, dispel the gathering gloom of a party. He had much personal charm of manner revealing itself behind a very slight reserve. His social activities were many,

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[1] *A.J.* **25**, 575–89.

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but in particular he was a faithful friend of the Royal Residential Schools for the Deaf and Dumb, Old Trafford, and the Hulme Day Nursery; whilst for many years he was the untiring administrator of a Dispensary for the poor in a crowded district of Manchester.

Fox was a widower and left no family.

J. W. R.

JOHANNES HANSEN VIGDAL.

(1851–1929.)

VIGDAL must have been almost the last of the Norwegian guides who learned their craft from Slingsby. He did nearly all his climbing with Englishmen, and consequently was not so well known to Norsk mountaineers as some of his contemporaries. He did not confine himself to one centre, or one district; he was always ready to go anywhere and try anything, and his list of new expeditions is a long one. Most are recorded in the JOURNAL and in the *N.T.F. Aarbok.*

There is an amusing description of him in his early days in 'Fur and Feather Tales,' by Hamblen Sears, an American sportsman, where he appears as a reindeer stalker in what the author calls a Derby hat and in top-boots. He adopted a more suitable headgear later, but the boots he refused to cut down, nor would any arguments ever induce him to get them nailed.

He was a beautiful mover, even for a Norwegian, over any kind of ground, and in many seasons' climbing I cannot remember his making a false step on ice or rocks or 'ur.' He had a very long reach, and in the most difficult places seldom failed to find what he always called 'splendid good fastenings for the fingers.' He would lead, and lead well, when he was asked to do so, but he was quite happy and contented anywhere on the rope.

He had numerous English friends and delighted in reminiscences of them, but his hero was W. C. S., and his stories about him usually wound up with 'Ah, Slingsby, he was so wise a man in the mountains.'

When he and I climbed together, between 1894 and 1907, he was at his best, and we generally managed to get what we started for; but no failure nor any disagreeables ever ruffled the serene temper which was the most endearing feature in a very attractive personality.

In the autumn of 1928 he had a slight stroke of paralysis, and was bedridden for most of his last year. He died on October 22, 1929, at his home in Solvorn, where he had spent the greater part of his active life as master of the school and 'kirkesanger' (parish clerk) in the church.

These few lines of tribute to his memory are a most inadequate acknowledgment of a forty years' friendship and of the many long and happy days spent in his company on Jostedalsbræ and in the Horunger.

C. W. P.

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NEW EXPEDITIONS.

Mont Blanc Group.

PETITES JORASSES, 3658 m. = 12,002 ft., *B.I.K.* By the N.W. face. July 16–17, 1929. MM. Migot and O. C. Schaub, with Armand Charlet.

[The N.W. face of the peak is characterized by a very prominent hanging glacier situated at about one-third of its height. This glacier is supported by a prominent rocky spur. Above the glacier, and close to the latter's upper slopes, starts a rocky couloir debouching a little to the left, N.E., of the summit. The general line of ascent is indicated by glacier and couloir.]

From the Montenvers follow at first the ordinary Couvercle route, then leaving the former to mount the Leschaux Glacier, steer towards the Col des Hirondelles. When on a level with the rocky spur of our peak turn to the left and mount steep snow, thus gaining the spur on the slope facing the Dôme de Rochefort. By a smooth slab attain a small platform. Above rise two parallel chimneys; take the left-hand one which is climbed with great difficulty between the wall and a large overhanging flake; traverse to the right to a platform above the top of the other, or right-hand (ascending), chimney. Above is another difficult and overhanging step, followed by slabs leading to a narrow terrace. Beyond lies a great smooth slab, holdless, but for a narrow crack (piton fixed). Go up the slab—the hardest bit of the climb. By easier rocks at first and then by an overhanging chimney attain the hanging glacier. Mount the glacier, very steep and icy in its upper slopes, with great danger from falling stones, striking the rocks to the left of the couloir. Gradually approach the true right bank of the couloir till latter is barred by an overhang. Cross and recross the couloir—many falling stones—and by one or other bank mount by climbing great split slabs. Now by a badly defined rib, forming the right bank of the couloir, and easier rocks attain the summit ridge close to the top.

Bivouac below the summit ridge on its Italian slope.

On the following day party descended N. arête, keeping slightly on its E. slope to the Col des Petites Jorasses.[1] Hence the Aiguille de Leschaux, 3770 m., was gained over snow slopes.[2] From that summit the party gained the N. branch of the Leschaux Glacier, flowing from the Col de l'Eboulement by descending—almost entirely *en rappel*—the N. arête and N.W. face of the peak.[3]

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[1] 3526 m., *Vallot*; *A.J.* **39**, 334.
[2] *A.J.* **39**, 143.
[3] *Ibid.* **39**, 312–3; **40**, 52–5.

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Times, halts included:

Montenvers dep.	09.40
First rocks of Petites Jorasses	14.25[4]
Hanging Glacier	16.30
Couloir	17.35
Main ridge	17.40
Bivouac arr.	20.00
Bivouac dep.	?
Col des Petites Jorasses	06.05
Aiguille de Leschaux	07.45
Surface of Leschaux Glacier	12.45
Montenvers arr.	16.50

From *La Montagne.*

Caucasus.

GIULCHI, 14,680 ft., Lower peak, called *Rziwaschkitau, ca.* 4400 m. [?corresponds with Mr. Freshfield's Ptysvachki,[5] see his map]. First ascent and first crossing of the massif (Sugan group) from N. to S. July 9–12, 1929. Herren F. Bechtold, W. Merkl, and W. Raechl.

July 9.—From Balkar, 04.00, up the Ptysvachki glen and glacier of that name to a bivouac on the right lateral moraine of the glacier, *ca.* 3100 m., 18.00.

July 10.—Left bivouac at 08.50, then up to uppermost, very crevassed, basin of Ptysvachki Glacier to a bivouac S. of a rocky needle emerging from the N.W. steep névé slopes of Ptysvachkitau, *ca.* 3950 m., 19.00. Bad weather.

July 11.—Left bivouac at 03.15; steering straight towards summit, a shapely snow pyramid, the N.W. face of which is some 1600 ft. high and set at an angle of 45°–53°. Summit at 10.30. Bad weather, consequently ascent of Giulchi abandoned. [Herr Egger courteously informs us that Giulchi was climbed by an Italian party on July 25.] Party turned down W. arête to a broad saddle and thence over steep névé to the Kokursu Glacier, down the right bank of that glacier—icefall descended with a 100-ft. *rappel*—to *ca.* 2400 m. below the moraine. Bivouac at 19.30.

July 12.—Left bivouac at 06.45, arriving at Karaul (5500 ft.) at 10.00.

KOSHTANTAU, 16,680 ft.; 5145 m., *Merzbacher.* By N. arête. July 23–26, 1929. Herren F. Bechtold, W. Merkl, and W. Raechl.

[The N. arête[6] rises from the so-called Mishirgi Pass—connecting the Kundium-Mishirgi with the Ulluauz Glacier—in a difference of

[4] The late hour of approach to the peak must have increased the danger incurred from falling stones ?—*Editor.*

[5] The Russian and Greek 'P' correspond with our letter 'R.'

[6] The possibility of ascending this ridge is pointed out in Mr. Freshfield's *Exploration of the Caucasus*, ii, p. 110.

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level of some 3500 ft. The S. arête has been followed on the two previous ascents, while in 1888 Messrs. Donkin and Fox attempted the rocky E. arête.]

July 23.—From the Misses Kosh (06.00), a good track on the true right bank of the Bezingi Glacier was descended for an hour, when the party deviated to the E. and mounted the Mishirgi glen to the flat end of that glacier (11.45). The party mounted the glacier containing four icefalls, all of which must be climbed or turned, and bivouacked at a height of about 3730 m. (19.45).

July 24.—Left bivouac at 04.30, passing through the two upper icefalls with difficulty and attaining the upper névé fields, at a height of some 4200 m. (10.15). The N. arête is now plainly visible. It rises from the Mishirgi Pass in a great rocky tower, followed by a lower and then an upper snow dome, whence the ridge continues, snowy, and set at a high angle, to an enormous rock pinnacle, after which it rises with no further difficulty to the summit. At 12.00 the party attained the Mishirgi Pass, *ca.* 4350 m. The first tower was climbed by its W. slope over iced and difficult rocks, and from its top a *descent* of some 180 ft. to the S. brought the party to the gap between the tower and its neighbour. By a ledge on the W. slope of the second tower and by mounting a little snow-gully, they attained the snow dome and bivouacked at a height of some 4530 m. (19.00).

July 25.—Leaving the bivouac at 24.00, the party mounted over snow below the snow dome and arrived at 01.00 in the notch whence the arête steepens. At dawn (03.50) they proceeded upwards, climbing over a few little teeth, and embarked on the great snowy portion of the ridge. It is fairly moderate in inclination at first—some 45°—and is followed partly by the crest and partly by its N.W. slope. At a height of about 4800 m. the arête bends to the S.W., not regaining its direction till the point where it abuts against the great rock pinnacle. This latter is mostly turned by a kind of cleft or chimney in its W. flank over icy and most dangerous slabs—a 3 hrs. climb—and the level of the top of the pinnacle attained at 09.30. Then over the fairly easy crest of the ridge (10.50) to the summit (12.20).

Descent commenced at 13.40, the great pinnacle was turned more to the W. than in the ascent, but proving just as difficult—a 4 hrs. climb—party only attained its base at 18.15. [It was impossible on account of the ice to take the pinnacle direct which should, under good conditions, prove the most advisable course, but the party think that the very steep snowy E. flank *might* prove feasible.] Bivouac on the ridge at about 4800 m. (19.30).

July 26.—Leaving bivouac at 02.00, party descended by same route, attaining base of snowy portion of ridge at 02.55, snowy basin below Mishirgi Pass at 08.25, descended the four icefalls of the glacier—the last necessitating a *rappel*—arriving at the Misses Kosh at 21.15.

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Skala Bodorku, 13,720 ft. By the W. arête. August 3, 1929. Herren F. Bechtold, W. Merkl, and W. Raechl. From a camp, *ca.* 2650 m., on the Seri Glacier, the party, 04.15, crossed the Tuiber Glacier in a N. direction to the Zynal and Litsha Glaciers. Then to the western of two snow couloirs seaming the main mass of Skala Bodorku, 08.45. Up this couloir, icy in parts, to a broad gap in W. arête, whence, 12.00, over steep ice and névé to a W. and secondary top, 13.00, and the sharp névé ridge to the summit, 13.40. Descent by same route.

Kulaktau, 4062 m. Traverse of the three peaks. August 4–5, 1929. Herren F. Bechtold, W. Merkl, and W. Raechl.

[The massif consists of great ice cliffs rising to the S.E. of the Kulak (or Sqimar) Glacier. The E. peak rises in a short arête to the basin connected with the upper Kulak Glacier by an icefall. The W. peak rises from the long and be-pinnacled ridge starting from the Tuiber Pass.]

August 4.—From a bivouac on the Tuiber Pass, 3601 m., starting at 03.45, party bore S.W., thus turning, some 200–300 ft. below the crest, the many towers on the ridge. This took much time, and arête of W. peak not attained till 09.00, *ca.* 3660 m. Arête followed over the steep and broken rocks of its right-hand slope; some 300 ft. higher up ridge becomes snowy, and, under favourable circumstances, could be followed to the summit; party, however, owing to much ice, obliged to proceed below crest over dangerously loose rocks. These rocks eventually improve and are climbed to the W. peak, *ca.* 4000 m., 15.45, whence the central peak, *ca.* 4000 m., is easily attained, 17.05. Thick mists compelled a bivouac in a snowy hollow below the central peak, 18.30.

August 5.—Left bivouac at 03.50, and from the gap between the central peak and summit, party took to an icy ledge leading diagonally to the right towards the W. arête. This latter attained after much cutting, and summit of Kulaktau reached after a fine climb, 06.10. Descent to S.E. over rocks and ice-gullies to a snowy plateau and thence to a gendarme lying S.E. of the plateau. Hence the steep névé walls of a basin, set at an angle of some 55°, lead downwards. Keeping some 300 ft. from the W. and rocky bank of the hollow or basin, party took a rib between two avalanche gullies; descending this with much cutting and some *rappels*, they thus attained the base of the hollow. The long avalanche trough descending N. to the Kulak Glacier, or its left margin, was descended with much peril. Many ice pitons employed to the upper avalanche débris, whence the surface of the glacier is quickly attained, *ca.* 3300 m., 14.10. The Tuiber Pass bivouac reached at 03.30.

The summit of Kulaktau appears far easier of access from the Kitlod Glacier to the S.

[The next group of peaks and passes is situated in the chain W. of the Tuiber Pass forming the S.E. boundary of the névés of the Leksur Glacier.]

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BASHIL PASS, *ca.* 3450 m., between Tot and Bashiltau. First crossing. August 6–7, 1929. Herren F. Bechtold, W. Merkl, W. Raechl, G. Anosow, W. Semenowski, and A. Worobioff.

August 6.—From camp on the Seri Glacier, party leaving at 12.50, mounted in N. direction over Tuiber Glacier to Zynal Glacier, of which a small portion is traversed to that glacier descending in a steep icefall from direction of Tot. Mounting or turning, to its true right, the said icefall the upper uncrevassed glacier is followed to a grassy rock buttress projecting from Tot, *ca.* 3160 m.; bivouac, 18.15.

August 7.—Bivouac left at 05.00; after short descent to glacier, the pass easily attained over gentle névé, 06.45. The descent over the Leksur Glacier is easy.

NAVIRIANITAU, *ca.* 4130 m. First ascent. August 7, (? 8), 1929. Same party as on August 6–7.

[This peak lies on the ridge leading S. from Sarikol Bashi, 13,965 ft.; this ridge is snowy on its W. slope, but the E. slope falls in rocky precipices to the southern névés of the Bashil Glacier.]

From a camp on the Leksur Glacier, *ca.* 3300 m., party started at 12.30. The icefall of the Leksur Glacier is scaled, and then progress is over the level surface to the bergschrund at the S. base of the massif, *ca.* 3700 m., 14.00. A snow couloir to the W. of the highest visible point is followed to a broad snowy saddle whence the summit first becomes visible, 14.55. The top is attained by bearing N. over a snowy hogsback, 17.00. Descent by same route.

From *Jahresbericht* des A. A. V., München, 1928–9.

For the ascent of Ushba, S. peak, see under 'Various Expeditions.'

[We would express our congratulations to the party, and can only admire their skill and determination, surpassed only by their power of resistance.—*Editor* 'A.J.']

VARIOUS EXPEDITIONS.

Mont Blanc Group.

PIC 'MOORE,' *ca.* 3530 m. = 11,580 ft. No height or name on *B.I.K.* July 31, 1929. Messrs. T. Y. Kagami and T. Graham Brown, with Alexander Graven and Gottfried Perren. Party left Torino hut at 04.40 and traversed Calotte de la Brenva (summit 07.00) to Upper Brenva Glacier. Thence to foot of *Col Moore*, the ridge of which was reached at the lowest point. The extremely narrow snow and ice arête was followed S. to the first rocks of Pic 'Moore,' against the face of which it ends. A traverse to the right on small but sufficient holds led to a sharp rock arête continuing without interruption to the first point which was reached at 08.45. After 20 mins. rest the party descended the steep S. arête of the

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first point to a gap, and thence traversed an intermediate point to the foot of the actual summit (09.30). The summit itself consists in a large monolith set upright and having at the top a curious projection pointing towards the Pic de la Brenva.[1] It was found possible to reach the actual summit to which a few stones were carried and a small cairn made. The party then returned to the first point, and, after a short rest, descended to the foot of *Col Moore* (10.20) and again traversed the Calotte de la Brenva (11.45), reaching the Torino hut at 13.45.

The ascent of this little peak, while short and never difficult, is continuously interesting. It is well worth a visit on account of the magnificent and uninterrupted view of the Brenva face of Mont Blanc, and of the frontier ridge. The rock is exceptionally sound. The W. side of the peak falls extremely steeply to the W. bay of the Upper Brenva Glacier, which is considerably lower in altitude than the central bay.

[This appears to be the first recorded ascent of Pic 'Moore,' and possibly the first traverse of the Calotte de la Brenva.]

MONT DOLENT, 3823 m. = 12,543 ft.—POINTE DE PRÉ DE BAR, 3632 m.—POINTE DU DOMINO, 3569 m.—AIGUILLE DE TRIOLET, 3876 m. = 12,717 ft. ***B.I.K.*** Traverse from Brèche de l'Amône. August 26–27, 1929. M. Robert Jonquière, with Marcel Bozon and Fernand Ravanel. (See the fine illustration, 'A.J.' **40,** facing p. 146.)

From Refuge d'Argentière to base of Brèche de l'Amône (2 hrs.), to col (3 hrs.), to Mont Dolent (4½ hrs.). From Mont Dolent follow the frontier ridge, passing over 4 pinnacles, to the Pointe de Pré de Bar, also scaled over the ridge. Thence, *via* a great gap, pass on to the S. slope and by an ascending traverse attain a broad ledge under Point *ca.* 3614 m., which is scaled. Descend on to Col Dolent by same ledge leading to a very steep and shattered couloir on N. slope facing Les Courtes. Descend by two *rappels* and so gain the Col Dolent (6 hrs. 40 mins.). Continue along the frontier ridge, or a ledge to the S., to the base of Point *ca.* 3600 m. By a diagonal cleft and a very difficult slab on to crest, re-attained by a chimney; and thence, very exposed, to summit of Point 3600 m., whence the gap E. of Pointe du Domino is gained by a *rappel.* Thence follow the crest or a little to its S. to base of an overhang. By a diagonal and loose ledge, followed by an awkward step leading to a very difficult chimney; chimney is climbed to a platform whence the summit of Pointe du Domino is attained. Follow the ridge more or less, then broken rocks, finally turning 3 teeth by a ledge on the S., to a well-marked gap. Now again by the steep and serrated crest to Point *ca.* 3550 m. Now by a 30-ft. *rappel* descend some 30 ft. to a platform whence you follow the ridge over 3 teeth to the base of the Aiguille de Triolet (5 hrs.). First mount the crest, then by

[1] See illustration, *A.J.* **41,** facing p. 46.

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a ledge on the S. slope leading to the base of a snow and ice gully some 140 ft. high. Go up this gully—first very steep, then nearly perpendicular—by its rocky right bank, then cross over by smooth slabs to the left bank and by these, or the snowy surface of the gully, gain its head. Bear to the right and take the left bank of a great couloir descending towards the Pré de Bar Glacier. Stones fall in the couloir from which the crest is regained and the summit attained by passing over several teeth (3¼ hrs.).

Location of bivouac not given. Cairns were found on most of the prominent teeth. From *La Montagne*, illustrated.

Pennines.

'MOMINGGRAT.'[2] August 14, 1929. Messrs. A. Zürcher and T. Graham Brown, with Joseph Knubel and Alexander Graven. Left Trift Hôtel at 00.59; Eselschuggen 03.15–03.30; Zinal Rothhorn 07.14; left 07.40 and reached 'L'Épaule' at 08.51; summit of Ober Mominghorn, 3968 m., 09.43–09.53; Momingjoch, 3793 m., 11.25–11.30; Unter Mominghorn, 3867 m., 11.57–12.20; Ober Schallijoch, 3745 m., 13.12; Schallihorn, 3978 m., 14.06. Thence a descent was made to the gap N. of the highest summit, when it was found that the snow conditions were dangerous, and the project to traverse the face of the Schallihorn to the Schallijoch had to be abandoned. The Ober Schallijoch (15.01) was again reached over the summit of the Schallihorn, and thence a descent was made to the Hohlicht Glacier, traversed under the cliffs of the E. face of the Zinal Rothhorn. Point 3672 m. on the E. ridge of the Rothhorn was ascended at 16.59. Left at 17.36 and descended the E. arête to the Rothhorn Glacier, traversed to the tracks of the ordinary route up the Rothhorn. Eselschuggen, 18.29–18.50; Trift Hôtel, 19.55–20.16; Zermatt, 21.25.

This magnificent ridge affords one of the finest climbs in the Zermatt district—long and continuously interesting.

'NADELGRAT.' July 23, 1929. Mr. T. Graham Brown, with Alexander Graven. Left Festi hut, 01.00; Festijoch, 03.16–03.25; Lenzjoch, 4167 m., 05.06–05.21; Lenzspitze, 4300 m., 06.04–06.30; Nadelhorn, 4334 m., 07.47–08.15; Stecknadelhorn, *ca.* 4235 m., 08.50–09.02; Hohberghorn, 4226 m., 09.40–09.47; Dürrenhorn, 4035 m., 12.16—the descent from the Hohberghorn having included 65 mins. of step-cutting in ice. Left Dürrenhorn, 12.27, and descended its long N. arête of exceptionally rotten rock over the Dürrenjoch and Klein-Dürrenhorn to the Galenpass, 3240 m., reached at 16.30. Thence the Galenhorn, 3360 m., was ascended at 16.58; left at 17.15, descended to the Ried Glacier, reaching St. Niklaus at 20.50. The descent of the N. arête of the Hohberghorn was difficult, as the

[2] *Alpes Valaisannes*, 1930, p. 164; *S. map*, sheet 533.

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arête consisted of hard ice and necessitated much step-cutting; the long N. arête of the Dürrenhorn is composed of exceptionally rotten rock, and on that account cannot be called tedious. The traverse of the whole NADELGRAT makes a splendid, but rather long, expedition (*cf.* 'A.J.' **41**, 212–3).

[The party had traversed the Täschhorn-Dom on the previous day.]

Bernese Oberland.

RINDERHORN, 3457 m. = 11,342 ft. By the E. arête. September 18, 1929. The Hon. Neil Hogg, with Fritz Ogi. From the Schwarenbach Inn, party attained the *Zagengrat*, near the so-called Zagen Pass (3042 m., *S. map*), 3 hrs. Thence to the W. to where the E. arête of the Rinderhorn falls in a perpendicular and impossible step. By a gently rising ledge to the S. proceed to a well-marked buttress on the mountain's S. slope; this buttress splits higher up into three ribs leading to the main or E. arête. Climb the buttress and the central rib, first over rather steep rocks, then a snowy crest leading over a notch to the snowy E. arête (1¾ hrs.). Now again traverse to the S. of the main arête over loose and difficult rocks, till this latter is regained at a spot where it becomes once more snowy above another perpendicular step. Follow the E. arête to the top (1 hr.). Descent over the icy N. arête to the depression between our peak and the Klein Rinderhorn, 3007 m.; thence up the latter's loose and very exposed S.E. arête [3]—fine climb—to the summit, followed by a wearisome descent over the débris-strewn ordinary route to the Schwarenbach Inn. 'Times' are very fast.

[The first expedition on this very abrupt and striking-looking ridge is said to be that accomplished in 1879 by M. Lionel Dècle, with a porter, but the very slight details ('A.J.' **9**, 493) are incomprehensible and the 'times' absurdly short. In any case, the *descent* of the E. arête was accomplished on August 5, 1897, by Mr. H. Runge, with Abraham Müller, who took 7½ hrs. for the descent of the arête alone, experiencing considerable difficulty throughout ('A.J.' **19**, 63–4). This was in all probability the *first* traverse of this ridge (Mr. Runge had attempted previously the ascent of the ridge, but was turned back by bad weather some 15 mins. from the top), and the route taken approximates very closely—save for one deviation on the N. face—to that followed in the ascent by the 1929 party.

According to the local guides, Mr. Hogg's ascent is only the second or third.—*Editor.*]

NESTHORN, 3820 m. = 12,533 ft. From the south. July 22, 1929. Mr. H. Booth, with Felix Julen. Party left Ober Aletsch hut at

[3] According to the *Climbers' Guide*, the route was first taken by Mr. G. A. Hasler in 1902.

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02.15. The ordinary route for the Nesthorn was followed to the Gredetsch Joch, attained shortly after 06.15. After a short rest steep but easy rocks somewhat to the E. of the actual pass were

Photo, H. Booth.]

NESTHORN, S. FACE.

descended to the Gredetsch Glacier. This was descended until the glacier bay between Point 3263 and the true S. ridge of the Nesthorn could be gained by ascending through some crevasses.

The route followed by Mr. G. W. Young [4] started up a snow-gully in the N.E. corner of this bay. Owing to the small quantity of

[4] By S. *arête*, August 8, 1902. *A.J.* **21**, 267.

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snow on the mountain any route in this direction appeared out of the question, and consequently the rocks on the W. side, immediately above Point 3263 m., were examined. The first attempt was made by a route becoming more and more difficult, and which, in consequence, had to be abandoned. A second attempt was made a little lower down, where there was a fairly flat slab of rock on which lay a patch of snow. This slab was apparently cut off from the mountain by a vertical wall on the right, N. The slab in question can be recognized apart from the patch of snow, as it ends in a vertical wall about 6 ft. high, the base of which is just about level with the surface of the glacier. This slab was ascended, and above the patch of snow a cleft was found in the wall on the right-hand side which was also climbed without much difficulty. From this point excellent rocks were climbed to the foot of the large snowfield lying on the S.S.W. face of the Nesthorn. As the snow was in excellent condition this was ascended for some way till a rib of rock running parallel to the S. ridge was gained about midway up the face. This rib, separated from the true S. ridge by a shallow snow-gully, was followed for the rest of the ascent. It is composed in its lower part of excellent rocks, easy to climb, and in its upper part of boulders solidly jammed together. The W. ridge of the Nesthorn was attained a few yards to the W. of the actual summit at 09.30. The actual time taken for the ascent of the S. face was 1½ hrs. *plus* ¾ hr. from the Gredetsch Joch to the foot of the rocks. Considerable time was wasted looking for the right way to get on to the rocks. The S. face of the Nesthorn appears to be perfectly safe from falling stones, as there were no signs of more than an occasional one on the snow at the foot of the face.

On the descent the W. ridge was followed; the W. slope of Point 3720 m. consisted of ice and practically no snow, and in consequence on the descent it was found better to leave the ridge and descend into the hollow lying on the N. side of the mountain between Point 3720 m. and the summit. After avoiding some crevasses it was possible to traverse round the N. side of Point 3720 m. by means of good but steep snow slopes and so avoid any step-cutting.

FINSTERAARHORN, 4275 m. = 14,026 ft. By the E., or *Ober-Studerjoch*, 'arête.' September 29, 1929. Herren H. Winterberger and O. Brügger, with Hans Kohler.

[See 'A.J.' **34**, 269, '. . . continuing from the (Ober-Studer) Joch is a rib which soon flattens out into the face of the mountain, which has been miscalled the "East (or E.S.E.) arête of the Finsteraarhorn." As far as I know the mountain has never been tried along that line. . . . Captain Farrar . . . describes it as "a hopeless rock face, scored by shallow gullies . . . unsafe to climb and very exposed." To the right (N.) of this mythical arête . . . lies the great wall (N.E. face) . . .'

Thus Mr. G. A. Hasler.

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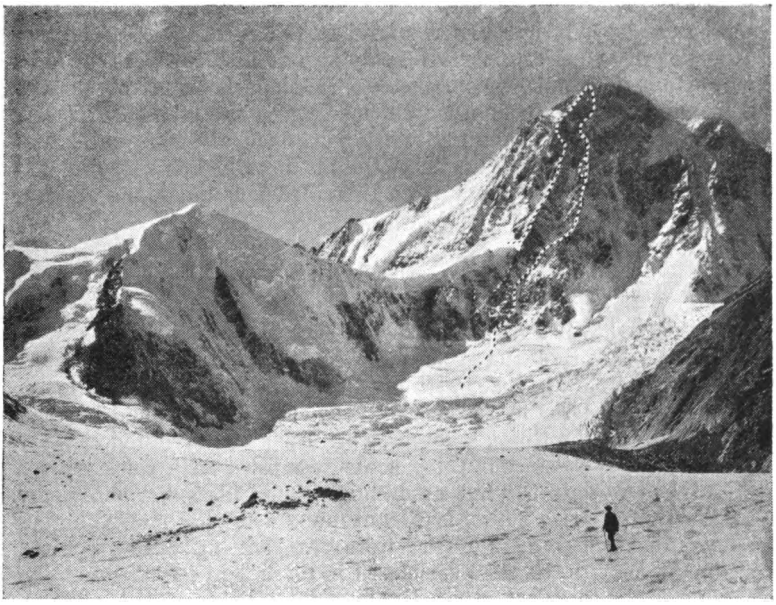
But, turning to *ibid.*, 379–80, '. . . The broken ridge or rib which descends from the southerly summit of the Finsteraarhorn to the Ober-Studerjoch and continues down to the Finsteraarhorn Glacier [*sic*] is, to my mind, very real indeed. There is nothing "mythical" about it. . . . The rib first runs E. of S.E. but quickly curves to the E. and continues N. of E. So massive is this ridge that it even boasts of a well-marked depression. . . . It is at least as prominent as the Bell-Fuhrer rib, which Hasler followed



N.E. Face of Finsteraarhorn.
Left, 1929 route. Right, 'Bell' rib.
(Hasler and Fynn parties.)

almost throughout his ascent. The great couloir which is such a very prominent feature of the N.E. face would be non-existent but for this eastern ridge. The eastern ridge forms its southern, Miss Bell's its northern, boundary. Whether this E. ridge can be climbed I am unable to say. The one doubtful stretch is that which lies immediately below the level of the Hugi Sattel. . . . As to Captain Farrar's remarks . . . these clearly apply to and correctly describe the N. end of the E. flank of the S.E. or "Meyer" ridge. . . .'

Thus the late Mr. Valère Fynn.

(See the Wehrli and Donkin photographs, 'A.J.' **34,** facing pp. 272 and 382; for another view of the Ober-Studerjoch, see p. 272.)

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Fynn and Farrar have left us, and, as for Mr. Hasler, like another great warrior, he has retired to his tent, whence, failing a Patroclus, or sufficient provocation, all efforts to dislodge him have proved hitherto vain.

It is by this 'mythical' or 'massive' ridge that lies the route to be described.]

From the Oberaar Hut, left at 06.00, the first party attained the Ober-Studerjoch, crossed the bergschrund and mounted a short snowy basin to the E. (E.S.E.) 'arête,' attained near a conspicuous pinnacle. Now up this ridge or rib, very difficult in parts, keeping to the crest—only one tower turned to the right, N. In the last 'fourth' of the climb, the rib splaying out into the vertical face, party forced to cut steps across an ice-slope bearing to the left, S.W., and so to gain another rib leading to the great S.E. arête, 40–50 m. below the summit. Latter attained at 14.45, or 7½ hrs. from the Ober-Studerjoch. The climb is described as very fine and difficult. (Communications from Herr Brügger and Hans Kohler, through Dr. Lauper.)

Bernina Group.

Piz Roseg, 3942 m. = 12,933 ft.—Piz Scerscen, 3967 m. = 13,015 ft.—Piz Bernina, 4055 m. = 13,304 ft., *S. map.* Traverse.

On September 19, 1929, with my friend the guide Karl Freimann of Samaden, I left the Tschierva hut so early that we had reached the summit of Piz Roseg before dawn. Luck had favoured us: the whole basin between our three peaks was filled with thick masses of mist as we left the hut at midnight and proceeded across the Tschierva Glacier. This sea of autumn mists rose slowly higher above the dark valley. There were two drifting walls of mist; curiously enough, these never closed in on us and left the route to the Aguagliouls quite open, although the said opening was often not more than a rope's length in width. After passing the Piz Aguagliouls we rose above the mists now breaking against the dark precipices of the Bernina Group. We climbed the N.W. arête towards the summit of Piz Roseg, all sprinkled with freshly fallen snow; we went slowly so as to spare our strength for the work ahead of us, never stopping, however, even for a moment. Near the first peak, or *Schneekuppe*, of Piz Roseg, a chamois track ran right across the névé.

The first light of the rising sun on the corniched peak gave us the signal to commence the descent of the E. arête. It was probably the second descent of that ridge, and the traverse, as far as Piz Scerscen, was unknown to both of us. Short strips of ice alternate with rocks, but care is always necessary on account of the proximity of the great precipitous N.E. ice-wall. The E. peak, or *Klein Roseg*, gives from above the impression of a repulsive tower; on a nearer approach it appears, however, much less startling. Up till this spot

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Photo, E. J. Garwood.

PIZ SCERSCEN and the Three Peaks of PIZ ROSEG.
From PIZ BERNINA.

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everything had been easy, but now the rock climbing begins. Perpendicular little steps on the ridge with good holds became more frequent, but no specially outstanding difficulty was encountered. The main difficulty was soon before us: we were about 300 ft. above the *Güssfeldtsattel*.[5] The steepness made details very difficult to grasp. The icy rocks and fresh snow forced us more and more on to the Italian side. A direct descent seemed at first sight impossible without an undesirable *rappel*. About 100 ft. above the col we crossed, on crampons, rocks thickly coated with ice for about a rope's length towards the E. face of the Roseg. After Freimann had passed as last man over this not easy traverse, we soon stepped on to the beautifully formed ice ridge of the *Güssfeldtsattel*. We had spent most time on the last third of the ridge.

We had now been going for about 10 hrs. The first half of our project had been accomplished successfully, and we could allow ourselves a short rest. The Roseg and Scerscen main ridges fall steeply to the sharp icy col from which descends an immensely steep and unbroken ice-slope for some 250 m. to the Tschierva Glacier; behind this appears the great N.E. ice-slope of Piz Roseg. This is surely one of the wildest spots in the Grisons Alps.

Some time elapsed before we could decide where to start. The Piz Scerscen is an all the more splendid tour, because one does not have one's pleasure spoilt by following the nail-marks of other parties. The smooth slabs leading straight up to the first tower on the ridge seemed to be passable, and these indeed we scaled, but not without expending a lot of strength owing to our nailed boots and rucksacks. We advanced always as near the crest of the ridge as possible, and invariably when forced to traverse did so on the less steep Italian slope, although there the rocks were very bad and rotten.

The ridge became steeper and steeper; places where mutual help was possible, less and less frequent; the big tower seemed to lean over considerably. The result of our first attempt to climb it by its N. slope was that Freimann failed to get forward over the next small overhang on account of the ice. A *direct* ascent of the gendarme which was not far above us appeared inadvisable after 12 hrs. climbing as the rock was so remarkably abrupt. We therefore retraced our steps a little, and I succeeded in traversing along the Italian side round the tower and on to a sharply pointed tooth in the notch of the ridge just in front of the snowy hump, or *Schneehaube*. We had now the hardest part of the tour behind us. The further traverse to Piz Bernina has little to offer compared to the difficulties successfully surmounted. We slung down on the rope from this gendarme, and our weight on the short rock ridge on

[5] Fuorcla Tschierva-Scerscen; now called Porta Roseg, 3527 m. on the latest edition of the *S. map*.

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which we now set foot caused the top of it to break away. We then walked at our ease over loose rocks to the *Schneehaube* and along the snow-crest to the summit of Piz Scerscen.

Three towers on the ridge bar the way towards Piz Bernina; each was turned on the S. by ledges or rubble-filled couloirs. We now climbed faster than we had done in the morning, but uphill this could only be managed by will power. During the entire tour we had moved slowly, but absolutely steadily; during the 18 hrs. of climbing we only halted three times, for about three-quarters of an hour each time. The last traverse towards the rocks of the Bernina consists of a sharp ice-ridge, which on account of the steepness of the ice-slopes on the left, N., has much in common with the *Güssfeldtsattel*.[6] At the beginning we balanced along the extremely sharp edge of the ridge, the fresh snow on the N. slope peeling off under our feet and forming dust avalanches.

As the ridge was in splendid condition, we advanced almost without step-cutting and so saved a lot of time, especially as the guide already knew this part of the way from a previous ascent. On the last steep rocks leading to the 'Bernina' ridge proper, the freshly fallen snow was a great hindrance. At 7 P.M. we emerged on the S. ridge of Piz Bernina. We hurried up to the summit along the well-worn summer track, reaching it at 7.25 P.M. Owing to the late hour we had now to abandon our project of returning *via* the N. or 'Bianco' ridge to the Tschierva hut, as such a descent would certainly not have been safe in the dark.

During our last halt we enjoyed a marvellous view towards the icy Scerscen ridge glittering in the light of the rising moon. In such light Piz Roseg looked incredibly distant, and the little Tschierva hut, whence we had spent 17 hrs. of toil, had vanished in the gloomy and cold shadows of our peak's huge north-western precipices.

With happy hearts we stumbled down to the Marco and Rosa hut on the Crast' Agüzza Sattel, where we arrived an hour later.

Times:

To Piz Roseg . .	5¾ hrs.	Tschierva hut dep. . .	24.00
To *Güssfeldtsattel* .	4 hrs.	Piz Bernina arr. . . .	19.25
Crossing *Güssfeldtsattel*	¼ hr.	Marco and Rosa hut arr.	20.25
To Piz Scerscen . .	4 hrs.		
To Piz Bernina . .	3 hrs.		
	17 hrs.		

ULRICH CAMPELL.

[The traverse of these three peaks in a single day has never, to our knowledge, been accomplished previously.—*Editor.*]

[6] But is at least three times as high.—*Editor.*

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Tödi District.

PIZ SCANTSCHALLAS (*Punteglasgruppe*), *ca.* 2950 m. = 9645 ft. No name or height on *S. map.* By E. face and S. arête. August 25, 1929. Mr. and Mrs. C. F. Gates and Mr. W. M. Younger. From the gap between Piz Scantschallas and Piz Mut *descend* a short distance on the E. side, and traverse along the E. face by a broad slightly sloping ledge which is very clearly seen from the Punteglas hut; then straight up easy rocks to join the S. ridge at a distance of some 150 yds. from the highest point. This ridge gives excellent climbing, including an exposed traverse round a prominent gendarme. Shortly before the summit the route described in the *Climbers' Guide,* 'Glarner Alpen' (1920), is joined, and the summit reached by the 'steep holdless slab' there mentioned. (2¼ hrs. from gap.)

Descent by N. ridge till just short of the steep drop into the gap between Piz Scantschallas and Piz Curtin scarvon Giacken. This was avoided by descending an exceedingly rotten chimney on the W. side, and by a short *rappel* (probably avoidable). Thence back to the hut by approximately the ordinary Piz Curtin route.

This traverse, especially if Piz Mut is included, gives an excellently varied expedition. The Siegfried map is rather inaccurate.

Brenta Group.

CIMA TOSA, 3173 m. = 10,403 ft.; *D. and Œ. A. V. map.* From the N. July 21, 1929. Signor Virgilio Neri, *alone.* From the Vedretta di Crozzon steer for the great conspicuous snow or ice gully, so well seen from the upper Campiglio-Bocca di Brenta path, separating the Cima Tosa from its huge northern buttress, or Crozzon di Brenta, 3128 m. Cross the bergschrund to its left and clamber up between the rocks of the Cima Tosa and the main gully itself. You will then come to what, in 1929, constituted a great icefall of overhanging or vertical séracs; mount these as best you can, keeping close to the Crozzon rocks—many falling stones. You then attain an enormous crevasse, some 30 ft. wide and of great depth. This is crossed on insecure blocks of ice, and by the upper and steepest portion of the floor of the gully you arrive at the spot where the gully bifurcates. Take its true right branch and by rocks and snow attain the summit. (4½ hrs. from the base.)

From 'R. M.' xlviii, pp. 326–7, 338–9, with a much foreshortened illustration.

[The conquest of the great gully solves a long-outstanding problem and is, in any case, the first *recorded* ascent. Under good snow conditions, the ascent or descent, for a *properly constituted party,* is easy. It entails a difference of level of some 2200 ft. from the spot where the gully contracts. But the danger of falling stones

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from the Crozzon di Brenta [7] is always excessive, largely because that great buttress, facing due E., receives the earliest rays of the sun. For this reason the route, although obvious and pointed out by the first pioneers of the group, has been considered, hitherto, as quite outside the pale of reasonable risk.

It is obvious that the proper time to attempt the expedition is in early June after a snowy spring and taking advantage of moonlight. But 'in any case the passage must be a long and trying one, not worth the pains.' *Cf.* 'Ball,' II, ii, p. 386.]

Caucasus.

USHBA (S. peak),[8] 15,409 ft. (4698 m., *Merzbacher*). Third ascent; from the S. by the 'schulze' route (second ascent). August 14–17, 1929. Herren F. Bechtold, W. Merkl, W. Raechl, and W. Semenowski.

August 14.—From a camp at about 2700 m. on the left lateral moraine of the Gul Glacier, party left at 04.15 and attained over the gently sloping glacier the base of the great couloir leading to a marked depression in the S. arête of Ushba's southern peak—the so-called *Mazeri Gap*, 06.00. Leaving the couloir some 350 ft. below the depression, the party inclined to the right over slabby rocks to attain the narrow and steep ice-gully starting from a point some 650 ft. above the said depression. The gully was full of ice masked by rotten snow: it is also dangerous from falling stones. At 12.45 a well-marked notch in the S. arête was attained, where, with doubtful weather coming on, the party bivouacked at about 3850 m.

August 15.—Party left bivouac at 04.00 and climbed up two rocky ribs bounding an ice-gully some 150 ft. high: this gully leads to the so-called 'Lower Snowfield,' that is to say the snowfield plainly visible from Mazeri abutting right against the perpendicular summit wall. A kind of flattish rib emerges from the steep névé leading parallel with the S. arête and forming its W. margin. Turning a portion of the névé, the party utilized this rib partly—easy rocks—and attained its head over steep but good snow, employing ice pitons (*ca.* 4100 m.), 07.00. The following rocks, *i.e.* the reddish rocks on the S.W. edge of that portion of the S. wall facing Mazeri,

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[7] On July 17, 1925, a cloudy and cold day, a cramponless party starting from the summit of the Cima Tosa quickly descended two-thirds of the couloir, *i.e.* to the top of the séracs. Finding the said séracs and lower third of the couloir ceaselessly raked by stones, the party turned back, easily regaining the summit of the Cima Tosa.

[8] For illustrations of Ushba see *A.J.* **13**, 354, 373, 514; **22**, 243, and especially 339, 341, 347; **28**, 142. See also 'Freshfield,' i and ii.

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were extremely icy and required much cutting. Above begins a steep ice-slope leading up to that portion of the wall facing W.: the base of that wall was attained at 11.15. The clamber up the wall, covered with ice and fresh snow, proved extraordinarily difficult; it commences some 100 ft. to the N. of the S.W. arête, first up a step and over a ledge to the left leading to a chimney some 100 ft. high, ending in an overhang. A rope belonging to the 1903 party was still hanging here. A human pyramid conquered the chimney and 12 ft. overhang, and easier rocks follow: first straight up a cleft, then to the left where the cleft ends in a smooth overhang. More pitons fixed. Then follows a *descending* traverse to the left to a splinter in the smooth wall, some 12 ft. *lower* than the take-off. Schulze's piton is no longer available [!]. A few more steps to the left, followed by a return to the right, complete the conquest of the bulge (over which masses of water were pouring later in the evening). A rope having been fixed here, the party went into bivouac beneath the overhang at a height of some 4400 m., 19.00.

August 16.—Departure at 04.30; the traverse was completely iced up, so was the fixed rope. It took 5 hrs. to overcome the step and attain the deep-cut ice-gully marking the termination of the main difficulties. Cutting up this gully and mounting it about half-way, the party then abandoned it to the left and took the less ice-clad rocks to its side (12.30), *ca.* 4470 m. Then over the upper summit-névés and the rocky W. arête to the top, 14.25.

DESCENT.—Summit depart 15.00; upper ice-gully attained, 15.45; five long *rappels* down the wall, quitted at 20.00. Bivouac above the steep ice-slope facing W., *ca.* 4320 m.

August 17.—Left bivouac at 04.50; red rocks, 07.10; depression in S. arête, 11.50; descent of great couloir accomplished, 19.15; camp on Gul Glacier (2700 m.), 20.00 hrs.

[The numerous day-halts are not given here, only the *main* times —*Editor.*]

From *Jahresbericht* des A. A. V., München, 1928–9.

Mount Kenya District.

MR. R. E. G. RUSSELL and I made an expedition to MOUNT KENYA in December 1929, the chief object of which was to explore the northern faces of the peak. The weather on the 'safari' up was very bad and our progress very slow. A camp was established at the head of the Mackinder Valley at the foot of the peak, *ca.* 13,500 ft. Here I was unfortunate enough to be laid low by a severe chill which robbed us of much of our time.

When I had recovered, we set about the exploration. The weather had cleared somewhat, and we managed to accomplish quite a lot. Conditions on the peak were appalling.

This northern side is amazingly complicated and the problem

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of forcing a route up any part of it is very difficult indeed. A very sharp and almost level ridge starts just below the summit of Batian [9] and runs N. for some distance; then it divides into two parts, one descending to the W., the other to the N.E. The W. ridge runs down to the col between Point Piggot and Batian and is quite continuous. It is very long and serrated and in places tremendously steep.

The N.E. ridge is not so well defined, and is broken up into a series of huge pinnacles, somewhat resembling a ridge of Chamonix Aiguilles. Two glaciers have their origin in the face enclosed by these two ridges: one is the Northey Glacier; the other has two branches named the 'César' and 'Joseph,' after Sir H. Mackinder's two guides—César Ollier and Joseph Brocherel. Between these two glaciers two detached peaks rise: one is Point Peter—a fine rock spire; the other appears to have no name—it is the higher though the less imposing. Neither has been climbed.

On the other side of the N.E. ridge are the N.E. faces of Batian and Nelion, divided by an immense couloir descending from the Gate of the Mists. It was from this side that Wyn Harris, Sommerfelt, and I made our first and unsuccessful attempt to climb the peaks in January 1929.

Conditions were now too bad to make a serious attempt on this side of the peak, so on December 16 we moved over a col (*ca.* 16,100 ft.) close under Point Lenana to the 'Curling Pond.'[10] Here we found the small cabin recently built by Mr. E. Carr.

On December 17 we made the ascent of the twin peaks by the route discovered in January 1929.[11] Conditions were fairly good, although the upper couloir of Nelion was choked with ice—much ice on the other parts of the face would render it quite unclimbable. A large corniche in the Gate of the Mists rendered its passage more intricate than before. We found our cairns on each summit intact. Our times were rendered rather slow by conditions, and we failed to get off the face before dark. A trying time on the Lewis Glacier was the result.

On December 18 we made the first ascent of Point John—a fine rock peak on the right bank of the Lewis Glacier. The ascent was made by the S. face (the only possible-looking face). The rock is sound, and the climbing (on our route) approximates to that required on the Dent du Requin.

We reached the foot of the rocks at about 9.30 A.M. and the summit at 1 P.M. The view is superb; its chief feature is the huge S. face of the mountain crowned by the Diamond Glacier, the scene of that epic bout of step-cutting in 1899.[12] The summit of Point John

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[9] The correct spelling is Batian not Bation.—*E. E. S.*

[10] This small glacier appears also under the name of the 'Skating Pond.' *A.J.* **41**, 365.—*Editor.*

[11] *A.J.* **41**, 220, 362-6.

[12] *A.J.* **20**, 109.

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seems to actually overhang the Darwin Glacier, 1000 ft. below on the W. side.

On the 19th we returned to the Mackinder Valley (we could not get our porters up to the 'Curling Pond') and thence down from the mountains.

Readings of the aneroid gave the following results:

Nelion, 17,150 ft.; Batian, 17,200 ft.; Point John, 16,200 ft.

We took a hypsometer with us, but did not use it, as we had lost our thermometer in a crevasse.

E. E. SHIPTON.

ALPINE NOTES.

THE ALPINE CLUB OBITUARY:	Date of Election
Dent, Edward	1874
Bury, H. E.	1878
Blake, M. Locke	1882
Fry, Very Rev. T. C.	1891
Tubby, A. H.	1894
Fox, Adam	1903
Murray, D. G.	1914

ALPINE JOURNAL.—Index to Vols. 16 to 38. This Index is now ready. Copies may be ordered from the Assistant Secretary, Alpine Club, 23 Savile Row, London, W. 1. Price 10s. 0d., post free.

Index to Vols. 1 to 15, including P.P.G. Copies may still be obtained, unbound, price 2s. 6d., post free.

'THE CLOSING OF THE ITALIAN ALPS.'—We are informed by the Italian State Railways' Official Agency that the following passes are now open: Col de la Seigne, Col du Géant, Théodule, and Colle San Giacomo. In other words, no mule or glacier passes are available in the Maritime, Cottian, Graian, Adula, Bernina, or Eastern Alps. The above Agency adds, naïvely, 'that the opening of the Passes for the convenience of mountaineers results in rather considerable expense in posting Customs and Passport officials.' We wonder what expense is incurred by blockading the whole of the Italian slope of the Alps [1] with armed guards and fascist militia!

After all, our Italian colleagues are the worst sufferers.

Latest news: The opening of the Colle S. Giacomo is doubtful. The COL FERRET remains closed.

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[1] To say nothing of the network of new strategical roads.

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H.R.H. THE DUKE OF SPOLETO has accepted Honorary Membership of the Alpine Club. The Duke has very kindly presented to the A.C. a magnificent series of Karakoram photographs, including several of K_2 and one of the wonderful Mustagh Tower.

Professor E. J. GARWOOD has been elected President of the Geological Society.

The late REV. W. A. B. COOLIDGE.—A most admirably written obituary of Mr. Coolidge by our Honorary Member, Monsieur Henri Mettrier, the distinguished mountaineer and writer, appears in the *Bulletin de la Section de Géographie*, 1929. The 'In Memoriam' was, we believe, intended originally for publication in *La Montagne*, but, owing to its length (59 pp.) and general interest to mountaineers, geographers and historians throughout the world, was transferred to the above valuable periodical.

It will be sufficient to state here that the article does full and sympathetic justice to the memory of the great mountaineer and historian.

DUFOURSPITZE of Monte Rosa.—The new 'Touring Club Italiano' 1 : 50,000 coloured map, *Il Cervino e il Monte Rosa*, is guilty of a gross and very peculiar error: the Dufourspitze is placed on the frontier ridge in the position occupied by the so-called Grenzgipfel. Although in every respect far inferior to the *Siegfried*, this map comprising the head of the Valpelline, the Valtournanche, Gressoney, Alagna, and Monte Moro districts will prove very useful—it is to be hoped in the not too distant future—to foreign mountaineers.

The I.G.M. (1922) coloured map, 1 : 20,000, *Conca del Breil*, is extremely valuable for the 'Grandes Murailles' Ridge.

EAST FACE OF MONTE ROSA.—Herren K. Wessely and K. Willvonsender. After spending two days in Pedriolo Alp owing to continuous bad weather, party left for Marinelli Hut.

July 27, 1929. Marinelli Hut left at 02.30, conditions appalling, deep fresh snow, avalanches, falling stones, etc.—route not reconnoitred owing to previous bad weather—bivouac in crevasse above the highest séracs.

July 28. Left bivouac, similar conditions, 2500 steps cut, rocks of Grenzgipfel highly glazed, bivouac on rock ledge near that peak, then forced to descend lower owing to bad weather.

July 29. Left lower bivouac, storm continued, no food or drink left; Willvonsender severely injured by falling stone. Grenzgipfel turned by [?] W. slope [*sic*]; Dufourspitze attained 16.00 hrs., lost way in descent, got on to rock rib to the right (N.), bivouacking in bergschrund; storm continued.

July 30. Left bivouac, perfect weather; severe ice work, long

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descent with *rappel*, finally spare rope compulsorily abandoned. Way not found for hours; Bétemps Hut attained.

August 1. Arrived at Zermatt; Willvonsender forced to leave at once for Brigue hospital where operation performed, Wessely escaping with seven frost-bitten toes.—From *Œ.A.Z.*

The extraordinary folly of the party was exceeded only by their daring.

MONT BLANC by 'La Sentinelle.'—Herren W. Stösser and Hall—both Germans—made the second ascent during the course of last summer. The 'Sentinelle' bivouac was left at 05.30 and the top of Mont Blanc attained at 15.00. No date.—From *Œ.A.Z.*

An epidemic of MOUNTAINEERING FILMS, as of more or less revolting war books, appears to be on us. Of the former one only seems to us worthy of a visit. The 'Ascent of the Aiguilles Mummery and Ravanel' is a pure mountaineering exploit and, as such, of great interest. These aiguilles lend themselves particularly for the purpose, and every episode of difficult scrambling by those versatile *artistes*, Armand Charlet and Arthur Ravanel, is represented quite faithfully. An absurdly faked entry and bivouac in a bergschrund—in a *confetti* snowstorm—somewhat mar the general effect.

The latest film, known by various titles, but aptly presented in the version we were unfortunate to visit as the 'Horrors of Piz Palü,' is more difficult to review. The author, Arnold Fanck, already notorious for the 'Wrath of the Gods' [2] and the shameless 'Matterhorn' [3] films, has thrown away enough good photography to furnish a dozen 'Secrets of Nature' studies. As usual with this producer, but little or nothing of the actual ascent of the mountain in question is given. The climb purports to be, summer or winter, as ski are used, by one or other of the N. arêtes. Of these we obtain some successful shots, especially those taken from an aeroplane, but of the actual climbing of these ridges nothing is shown. We can hardly blame the producer for this omission: none of the actors, except possibly the very lightly clad lady, furnished with a true sex-appeal squint, are capable of such an exploit. They cut steps vigorously up perpendicular or overhanging ice, but we note they invariably place their feet where no steps have been made. There may be some virtue, after all, in Tartarin-like crampons! The inevitable accident, or accidents, take place: a party of Swiss Academicals—the one kind of guideless caravan likely to be immune—is overwhelmed by an avalanche of sugar or flour. The first party then falls off and a member breaks his leg. Having accomplished this feat, he performs a more difficult one: he snaps an ice axe across his shin and secures the shaft to his leg for a crutch. His

[2] *A.J.* **40**, 186–7.

[3] *A.J.* **41**, 255–6.

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movements, hitherto a cause of anxiety to us, now become far safer —in fact he climbs well, although hampered by affectionate motions of the lady. The other member meanwhile has gone mad. The Swiss are found, mutilated in the depths of a bergschrund, by a rescue party provided with inexhaustible Roman candles. The bodies are brought down on tea-trays by skiers, coupled two and two, moving at magical speed down the icy slopes of the N. arêtes. The scene appears to be the eastern side of the Fuorcla Pers Palü; the crest of the Palü N. arêtes is the S. ridge of *Piz Bernina*, taken from that summit!

An aeroplane starts to rescue the man with the crutch, together with his affectionate and insane companions: it takes off from the frozen Lake of St. Moritz and secures some truly superb sunset and mountain views. On approaching the N. face of Piz Palü—still more astounding photography—the aeroplane nose-dives and loops the loop, within a few feet of the rocks. At this stage we left the hall and remain in ignorance of the *dénouement*.

The story, lasting some hours, is, of course, slush.

For one small mercy we may be grateful: the 'talkie' has not invaded the Alps so far and we are spared the sorrow of hearing 'Swiss' guides speaking American.

PRESENTATION to the Alpine Club.—Mr. A. E. Donkin has been kind enough to present the revolver and belt found in the last bivouac of Messrs. W. F. Donkin and H. Fox on Koshtantau in the Caucasus in 1889.

ALPINE WEATHER REPORTS.—A considerable improvement is to be noted in the daily reports published in *The Times* and *Morning Post*, for the winter season of 1929–30. We became, however, rather tired of reading of a certain much advertised resort 'Sun and frost, 5 ft. of powder snow, perfect conditions' for weeks on end—which most certainly was not the case. Nevertheless, fewer anachronisms such as 'KLOSTERS. Perfect conditions; sun, frost and powder snow; no good snow below 5000 ft.,'[4] now appear. The height of Klosters (Platz), as given on the Siegfried map, is 1209 m. = 3967 ft., while Klosters (Dorf) is 1127 m. = 3698 ft.

The climax of optimism is provided by a correspondent in the *Continental Daily Mail* of January 18, describing the magnificence of the sport afforded by the bob-sleigh run of Les Avants, whose daily weather report, on the same page, issues the laconical statement: 'No snow.'

EXHIBITION OF ALPINE ART IN BUDAPEST.—The Hungarian *Turisten Verband* is to be congratulated on the organization of a remarkable exhibition in Budapest, open from March 22 to April 22,

[4] *The Times*, February 14, 1930.

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1930. A catalogue has been received in which 112 of the 1232 pictures exhibited are illustrated, and these include examples of the regrettably few British representatives among the 285 artists from eleven countries who have contributed.—J. E. M.

The Hôtel Schwarzhorn, GRUBEN, Turtmanntal, was burnt down last February. It is to be rebuilt.—H. B.

Memorial to Capitaine ADRIEN DURAND.—A monument to the memory of Capitaine Durand (1787–1835) has been erected near the Ailefroide Chalets and on a spur of Mont Pelvoux. Capitaine Durand was the first cartographer and founder of *La Carte de l'Etat Major*, and made the first ascent of the Pyramide, 3938 m., of Mont Pelvoux, 3954 m., on July 30, 1828. He also spent several days on the summit.—From *La Montagne*.

The death of JOHANN GRILL II occurred on December 3, 1929. He was suffering from an incurable disease. An admirable history of the two 'Köderbacher,' father and son, together with a list of their principal expeditions, by Herr W. von Freriks will be found in the D. and Œ.A.V. *Zeitschrift* for 1929.

With reference to this list, it is interesting to note that in the *Führerbuch* of Johann Grill I there is an entry by his employer, Herr H. Loschge of Nürnberg, to the effect that the pair had made 'an ascent in 1875 of the Aiguille Verte from *Argentière* by a new route'! It appears that a Venetian (*sic*) guide was also present, but Herr von Freriks rightly questions whether Grill, even with such 'assistance,' could have succeeded in so serious an undertaking. Nevertheless, Herr Loschge's other statements seem to be always worthy of credence, and, together with Herr von Freriks, we must leave it 'to posterity to unravel the tangle.'

In our opinion—for what it is worth—although the start appears to have been from Argentière [? Lognan], the route taken was *via* the Col des Grands Montets-Couvercle-'Whymper' couloir.[5] Excluding this possible ascent, the Aiguille Verte, it seems, has been climbed, by its N.E. or Argentière slope, on three occasions only, in 1876, 1924, and 1929.[6]

Memorial to CHRISTIAN KLUCKER.—A gravestone, consisting of a large granite block specially brought from the Albigna glen, was

[5] Or, 'Mauvais Pas'-Mer de Glace-Couvercle-'Moine' ridge.

[6] We are not forgetting, of course, the tremendous expeditions made in 1895 by Messrs. Fynn and Goudet; and by the Signori Gugliermina in 1901. But of these routes—starting from points far more to the *S.*—the former led to the Grande Rocheuse and the latter to the Col de l'Aiguille Verte.—*A.J.* **24**, 615–7.

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unveiled to the memory of this great guide, in the little churchyard of Fex on November 3, 1929. A very large number of members of the S.A.C. and friends of the deceased attended the service.

Photo, Steiner.]

CHRISTIAN KLUCKER'S GRAVE.

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The inscription on the tombstone reads as follows :

In Memoria da nos
Christian Klucker
Guida
1852–1928
Secziun Bernina dal C.A.S. ed Amihs
dal A.C. d'Inghilterra.

A photograph of the cemetery and gravestone, kindly presented to me by the ' Bernina ' Section, S.A.C., was exhibited in the A.C. December Photographic Exhibition. E. L. S.

FIESCHERWAND.—The second ascent of this startling N. face was accomplished on September 14, 1929, by Herren W. Welzenbach and H. Tillmann. The route was the same as that of the first party, the redoubtable Swiss pair, Herren von Schumacher and Amstutz, ' A.J.' **38,** 215–18, with an illustration. Leaving the Schwarzegg hut at 04.00, the second party reached Point (?) 3800 m., W. of the Gross Fiescherhorn, 4049 m., at 17.00. Descent over Ober-Mönch-joch to the Jungfraujoch, 21.30 hrs.—From *Jahresbericht* des A.A.V., München, 1928–29.

The CAMP of the Alpine Club of Canada will take place this year at Maligne Lake, Jasper Park, from July 28 to August 16. A cordial invitation is issued to all members of the Alpine Club. Interesting articles on the mountains bordering Maligne Lake will be found in the present and last numbers of the JOURNAL.

' SCHNEEBRETT ' Avalanche.—The best and most instructive photograph that we have seen is published in *Der Bergkamerad,* No. 10, 1930, p. 78. It is by Franz Wagner and deserves careful study by all mountaineers and ski-runners.

WINTER ASCENTS.—The first winter ascent of Piz Bernina by the N. arête, or so-called *Biancograt,* was accomplished on March 15, **1929,** by Herr C. J. Kollmus with Caspar and Ulrich Grass. Leaving the Tschierva Club hut at 04.00, the Fuorcla Prievlusa at 06.50, Pizzo Bianco, 3998 m., was attained at 11.30. Conditions were good, and little ice, extremely unusual in winter, was encountered. The summit of Piz Bernina was reached at 13.25 and left at 14.10, the descent being accomplished *via* the S.E. arête and the ' Bruch.' The Morteratsch restaurant was attained at 17.10.—From *Die Alpen.*

Raquettes were employed from the Tschierva hut to the Fuorcla Prievlusa, and ski—previously dumped there—from near the Boval hut to the Morteratsch restaurant. The rocks from the Pizzo Bianco to the summit of Piz Bernina were quite dry, and a strong

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icy wind [7] (always to be expected in winter on this long, narrow and most exposed ridge) was the only serious hindrance. The expedition will be reckoned amongst the most remarkable of winter ascents, and the 'times' are very fast, rivalling the quickest in summer.

WELLENKUPPE.—N.W. face and N. arête. *Die Alpen*, 1930, pp. 72–4, reports a 'first' ascent by the former route, and a descent by the latter, as having been accomplished on August 24, 1929. The N.W. face was first taken August 22, 1881, by the Hon. Gerald Fitzgerald and Mr. J. Heelis with J. Mooser and J. Taugwalder, 'A.J.' **10**, 359; while the N. arête was accomplished August 1, 1885, by Mr. T. P. Jose with Peter and Caesar Knubel, 'A.J.' **13**, 124.

Alpes Valaisannes (1930) gives full particulars and sketches of both these routes which are, moreover, noted in S.A.C. *Jahrbuch*, xxii, p. 312; xxvi, p. 394; xxxv, p. 301.

MONT BLANC by the Brenva route.—In 'R.M.,' xlviii, pp. 333–34, is described a variant consisting, roughly, in joining by a perpendicular line the figures '2' and '11' on Mr. Holmes's photograph, 'A.J.' **26**, facing p. 204. This variation (1929) possesses, unquestionably, the distinction of being by far the most dangerous yet discovered. One of the new Italian SHELTER HUTS has been constructed on the rocky island separating the upper séracs of the Brenva Glacier.

The first ascent of MONT BLANC by the Brenva route.—It has generally been assumed that the first party,[8] after spending the night on the rocks of the Brenva Glacier above Point 2727 m., gained the central bay of the upper glacier and reached the buttress of the Brenva route (*arête Moore*) over the *Col Moore*. This supposition does not tally with Moore's own account in 'A.J.' **2**, 369, and in 'The Alps in 1864,' where it is curious that he makes no mention at all of the steep ascent to the *Col Moore* and its *lower*, long and narrow ridge. There is an icefall of the central part of the Brenva Glacier opposite the S.E. end of *Pic Moore* (not indicated accurately on the B.I.K. map). In his description, Moore says definitely that they did not gain the upper névé of the glacier above the fall. The party appears not to have ascended completely the ridge upon which they bivouacked, but to have gone up to the left, W., of the ridge until they reached the glacier. Their route then passed directly across the glacier towards the foot of the Col de Pétéret. As they went, the sun rose and its beams crept down 'the great wall of

[7] A party failed from this cause as far back as February 1899.

[8] July 15, 1865. Messrs. A. W. Moore, F. and H. Walker and G. Mathews, with Jakob and Melchior Anderegg.

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precipices before us.' Having crossed the glacier *with difficulty*, a smooth slope of snow 'between the foot of the cliffs on our left and the icefall' led them to the base of the Brenva buttress. Avalanche débris from hanging glaciers rolled actually across their path. They then reached a steep slope of hard snow, up which they ascended until they gained the rocks of Moore's arête. This description cannot apply to the usual route by way of *Col Moore*. There are no cliffs on the left, and there are no hanging glaciers under which they would pass without going much out of their way. On the other hand, the description accurately applies to a route which, traversing the Brenva Glacier to near the foot of the Col de Pétéret, ascends into the W. bay of the glacier, and reaches the *arête Moore* by the steep snow descending on the W. from *Col Moore* and the foot of the *arête Moore*. This is apparently the route marked on the map printed on p. 130 of the first edition of 'The Alps in 1864' (reproduced on p. 133 in Kennedy's second edition, 1902). The route there marked is identical with that drawn in red ink by Moore himself on his own travelling map (pasted into his manuscript journal for 1865 in the Club Library). Moore was very careful with regard to topographical detail, and it may be regarded as probable that the route suggested in this note was that actually followed on the first ascent of Mont Blanc from the Brenva Glacier in 1865. Coolidge ['A.J.' **26**, 428] would appear to have followed the same route [9] in 1870.

T. Graham Brown.

Irresponsible Scrambling.—There was a time when mountaineers, having achieved an absurd and useless variant of an already dangerous route, refused to publish details. We ourselves, when writing a *Climbers' Guide*, have come across instances of such abnegation, even in the case of a true 'new' route. Nowadays it is fashionable to blazon forth these follies throughout the Alpine world.[10] In a well-known foreign quarterly will be found a glaring specimen: A party consisting of a very youthful amateur with *three* guides repeated, by means of a monstrously dangerous variation, the ascent of a classical route on a famous mountain. We give a few excerpts from the said amateur's note: An attempt, made a fortnight previously, having been repulsed by falling stones, the party again sets out. The guides proceed to reconnoitre the base of the couloir and, having crossed the bergschrund, return to the hut. Ten minutes later an immense avalanche sweeps the couloir '. . . obliterating every trace of steps: I have never seen anything

[9] Mr. Graham Brown's reasoning is interesting if not conclusive. But Mr. Coolidge, about the year 1908, informed us that he *had* gone up in 1870 by the then (1908) usual route, *via* 'Col Moore.'—*Editor.*

[10] See *Der Bergsteiger*, 1930, No. 3: 'Alpinismus und Journalismus,' by Dr. W. Bing.

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resembling such a fall; there was one boulder, at least 8 metres square, which executed bounds of more than 200 m., scooping out craters in the black ice which, as we saw on the following morning, were 4 m. deep. . . . we consoled ourselves with the thought that two similar falls do not occur on two successive days.'[11] On the following morning, accordingly, the party mounts the said couloir, finally being driven by the fall of some of the still remaining stones on to its marginal rocks, equally exposed to stone-fall, with the additional inducement of tottering séracs immediately above. They reach the summit—in extraordinary time. They descend by another route ('A.J.' **41**, 37–8), considered until recently as one of the longest and most trying in the Alps: '. . . the descent of the arête is ridiculous . . . the corniches are easy, while the . . . couloir appears flat.' [A mere 52°, as the Editor caustically points out.]

The hut on the other side is reached in still more wonderful time: '. . . there we had to swear on the Bible before its occupants would believe that we had crossed the . . . in 10½ hrs. from hut to hut.'

The 'guides' were more to blame than the light-hearted amateur. We could wish for the pen of the late Charles Edward Mathews.

'Un Grand Match.'—In *Alpinisme*, No. 17, will be found a most amusing paper with the above title. The article, by M. Etienne Bruhl, is enriched by futurist drawings. It describes the first ascent of the Grandes Jorasses by the N. face in A.D. 1957. The paper shows what will happen when competitive and advertised mountaineering, accompanied by cups and money prizes, rules the day. For all its levity, it deserves close study by those persons now, unconsciously perhaps, engaged in promoting such 'sport.'

Height of the Great Gendarme on the Aiguille Blanche de Pétéret (*Punta Gugliermina*).—This point, usually credited with a height of about 4000 m.,[12] appears to be considerably lower. As the Aiguille Blanche, *Punta Gugliermina*, and Aiguille Noire de Pétéret lie almost in a straight line, and nearly at right angles to the line joining the Dames Anglaises to the Torino hut, it is fairly easy to make a rough estimate of the height of the Great Gendarme from

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[11] On September 9, *1895*, an enormous fall of rock took place at 1 P.M. immediately below the 'Great Tower' on the Italian ridge of the Matterhorn; '. . . constant falls of stone poured down it during the remainder of the afternoon . . . the mountain was not subsequently, it is believed, ascended or descended on the Italian side until the year *1897*' (*A.J.* **25**, 52, footnote). And *this* fall took place on a ridge!

[12] See *Kurz*, 1927 edition.

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the hut by a simple sum in proportion. Last summer a party tried to do so, and came to the conclusion that the Gendarme was about 100 m. less than its reputed height. A photograph taken from the Col du Géant should allow a fairly close measurement to be made, provided that the plate was exactly horizontal. In the absence of any accurate photographs I have tried to calculate the height from a series of eight photographs, none of which is known to have been taken with any precaution as to levelling. The result gives an average of 3883 m. as the elevation of the Great Gendarme. Four of the eight photographs gave a figure within 10 m. of the average; two of them gave elevations of about 3860 m.; and the greatest elevation was 3904 m. Of course these calculations make no pretence to exactness (some of them were made from picture post-cards), but it is curious that two of the photographs taken by accurate photographers gave elevations of exactly 3883 m. each. The elevation of this point is of some interest to 'four-thousanders.'

T. Graham Brown.

Fuji-san.—The altitude of Fuji-san, the great sacred mountain of Japan, has from quite ancient times formed a subject of conjecture or calculation among interested persons. The earliest on record is that of a famous Japanese poet of about a thousand years ago who declared in well-known lines that 'The mountain which I found higher to climb than I had heard, than I had thought, than I had seen—was the peak of Fuji.'

In modern days, however, it has been subjected to the more critical scrutiny of scientists of many lands, and though there has been always some divergence of view as to the exact height, it has been generally accepted that 12,400 ft. is probably as close to the mark as anything. As a matter of fact, there is good reason to believe, on the authority of eminent modern seismologists, that some volcanoes may actually at times *decrease* in height, owing to a process of subsidence of their eviscerated strata. It is possible that a phenomenon of this kind may be taking place in the case of Fuji-san itself.

In *Die Alpen*, 1929, [p. 190], a statement was quoted from *La Montagne* to the effect that 'Foujiyama . . . hitherto regarded as the loftiest point in the Empire of the Rising Sun, has just been dethroned from its sovereignty. . . . It is relegated to the position of *sixth*, being surpassed by five peaks in the island of Formosa. The highest summit in that island, which, as we know, belongs to Japan, is Mount Niitka, 4013 m., whilst . . . Foujiyama only reaches 3767 m.'[13]

The above statement is sufficiently misleading to call for correction in the interests of accuracy.

Until the cession of Formosa, nearly forty years ago, after the

[13] *A.J.* **41**, 421.

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China-Japan War, Fuji-san, as the Japanese themselves style the sacred peak, was very properly, as its name implies, *the* 'peerless' mountain, no other summit approaching its height within some 1900 ft.

When, however, Formosa became an integral part of the Japanese Empire it introduced into the list of Japanese mountains others of loftier altitude, of which the two highest have long been familiarly known to European travellers by their English titles of Mount Morrison and Mount Sylvia. The Emperor Meiji, however, in the interests of scientific accuracy, decided, without abandoning the title 'Fuji' (literally: 'no two,' 'no rival'), to qualify it by renaming Mount Morrison *Niitaka*, i.e. 'the new loftiest peak,' whilst 'Mount Sylvia' was dropped for *Tsugitaka*. Comparatively recent Ordnance surveys have shown that not only these summits (3950 m. and 3931 m. respectively) were, as had long been known, higher than Fuji, but in addition to them were three others overtopping her height by 150–250 ft.

Nevertheless, none of these is comparable in beauty or picturesqueness of form to the sacred peak in question, and her claim as 'The Peerless One' is in that respect never likely to be challenged.

WALTER WESTON.

ALPINE ACCIDENTS.—Two Germans, accompanied by a lady, were attempting the ascent of *Piz Bernina* on February 25, 1930. Wearing ski, they had reached the upper slopes of the so-called *Bruch* below the Crast' Agüzza Sattel, when the leader, Johann Amann of Munich, fell into an enormous crevasse. The rope broke and the unfortunate man perished. The survivors were, naturally, unable to do anything to help.

The well-known guide, Hermann Perren of Zermatt, was making the ascent of the *Breithorn* (Pennines) with Fräulein Karolina Ecker of Lucerne on February 25. Some 200 ft. below the summit—one account says right *on* the summit—the lady, who, according to a following party, was quite close to the guide with the rope trailing on the snow between and behind them, fell together with Perren into a crevasse where 'no person had ever suspected the presence of one.' Both fell a distance of about 100 ft. and were apparently killed instantaneously, their skulls being fractured. Desperate but unavailing efforts were made by the leader of the following party, the guide M. Kronig, to reach the victims. A search party from Zermatt found and brought down the bodies on the following day.

The accident, at first sight, may be attributed to the improper use of the rope and also to the party consisting of two persons only, of whom one was a very big and heavy man; corniches and snow bridges are notoriously brittle in winter. Still, bearing in mind the fact that the Breithorn is visited by hundreds of persons, summer and winter, and that no sign of a crevasse or chasm has ever been

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remarked at that spot, the accident may be attributed more to bad luck than bad mountaineering.[14]

Hermann Perren, who was aged about 68 years, was still one of the best guides in Zermatt. Extremely enterprising, active and strong, he was well liked[15] by mountaineers of all nationalities. He is stated to have climbed the Matterhorn more than 140 times; at the time of his death he was manager of the Tourist Hôtel, Zermatt. The funeral was very largely attended.—From *Neue Zürcher Zeitung* and 'communicated.'

SKI ACCIDENTS.—In spite of a recrudescence late in 1930, we gladly note a great diminution as compared to former years.

KANGCHENJUNGA EXPEDITION.—The international party composing the 1930 Expedition left Europe at the end of February. Their names are as follows: G. O. Dyhrenfurth,[16] leader, A.C.; H. Hoerlin, U. Wieland, H. Richter (Germany); Marcel Kurz, A.C., C. Duvanel (Switzerland); E. Schneider (Austria); Enrico Gaspari (Italy); F. S. Smythe, A.C., G. W. Wood-Johnson, J. H. Hannah (Great Britain), together with a Gurkha N.C.O. lent by the C.-in-C., India.

Colonel Norton, Captain Geoffrey Bruce, and Messrs. T. H. Somervell and E. O. Shebbeare were all invited to take part, but, owing to various causes, were unable to accept.

Lt.-Colonel H. W. Tobin (Great Britain), who had experience with the Bavarian party of 1929, has taken over the duties of director of transport.

We wish the expedition all success.[17]

HIMALAYAN EXPLORATION.—Istor-o-nal, 24,271 ft.—the biggest mountain mass in the neighbourhood of the Atrek Glacier and

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[14] It must be remembered, however, that Perren had been involved in *two* previous fatal accidents caused by breaking through snow bridges when on ski. The first when Herren Koenig and Flender perished on the Grenz Glacier in February 1902, he himself escaping after 2½ hrs.' immersion (*A.J.* **21,** 137–39); the second a few years ago, on the self-same Breithorn, when he was rescued after lying 36 hours alongside of his dead companion. Perren, of all guides, should have learnt prudence.

[15] For a warm appreciation, see *A.J.* **32,** 297–304.

[16] Frau Dyhrenfurth will accompany the party to the base camp.

[17] The latest report states that the expedition is proceeding through Nepal. See Mr. Freshfield's topographical note, 'How to climb Kangchenjunga,' *A.J.* **22,** 122–4; this contains the only illustration of the possible approach to the mountain from the N.W., the Kangchenjunga Glacier.

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second only to Tirich Mir—consists of a horseshoe of peaks of over 24,000 ft., three of which were fixed by triangulation and the above name, = 'the Horse's Shoe,' given to the highest.

Following several reconnaissances, a bold attempt was made to scale Istor-o-nal on July 21, 1929. The party consisted of Major Dutton, Captains E. R. Culverwell and Coldstream, and Lieut. D. M. Burn. The party from Ataq mounted the Atrek Glacier and from a base camp at about 18,000 ft. climbed up a snow-gully, attaining the peak's main W. arête at a height of 20,200 ft. At the foot of the N. slopes of the said arête a very torn glacier, ignored by the Survey, was visible. One of the party, accompanied by a porter, proceeded 2 hours further up the difficult arête and had passed the most awkward steps before want of time compelled a retreat. Bad weather then set in, the party having spent nine nights at 18,000 ft. The failure was brought about largely by the superstitions of the Chitrali porters.—From the *Himalayan Journal.*

[In future HIMALAYAN NOTES will be suppressed, as with the advent of the *Himalayan Journal* all such are best left for publication in that excellent annual to which readers of the ALPINE JOURNAL are now referred.—*Editor.*]

CAUCASUS NOTES.[1]

A NOTE from Professor Nikoladzé, of the University of Tiflis, recording the activities of the Alpine branch of the Georgian Geographical Society in the years 1924–5–6, will be found in Vol. **39,** p. 162, of the ALPINE JOURNAL. He now sends us the further list of subsequent expeditions which is here analysed. It includes several ascents of both Kasbek and Elbruz in 1927 and 1928, made by large parties of men and women. In 1927 several climbers from Tiflis joined by five from Moscow visited the neighbourhood of ELBRUZ and climbed the western peak and the summit S. of Urusbieh known

[1] Such place-names as occur in the following note are printed as far as they can be identified in the form in which they are found in the map of the Caucasus published with Mr. Freshfield's *Exploration of the Caucasus,* the document most likely to be accessible for reference to our members. No uniform system of spelling has been arrived at for geographical nomenclature among the mountains. Turkish or Georgian place-names collected on the spot by the Russian surveyors have naturally been recorded in Russian characters on their maps. These in their turn are variously transliterated by French, English, and German authors, until they often, when pronounced, become unintelligible to the natives of the country.

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as KURMICHI (13,314 ft.). In August 1928 the 'Prison of Prometheus' was, 60 years after its first conquest, overrun by a mixed crowd consisting of 24 climbers, 2 guides and 15 porters. They all returned safely, having filmed the incidents of the climb, which was effected by the Ortsveri Glacier, while the Devdorak route was followed on the descent. In the same year an enthusiast, armed with a barograph and thermograph, reached the summit of KASBEK alone. He also was fortunate enough to return safely.

The doings of last year were more extensive. In August a party of five—three men and two women—attacked BRUTSABDZELI, a bold rock-peak of 12,040 ft. standing close to the watershed of the Caucasus near the sources of the Ardon. It proved a stiff climb of 8 hrs. The inhabitants look on it as a holy mountain; a pyramid 6 ft. high and the remains of a cell were found on the summit.

More ambitious in its aim and interesting in its results was a 'Scientific Expedition to the Central and Western Caucasus,' organized by Professor Nikoladzé in August 1929. Its objects were to climb in the Bezingi district and to study the little-known part of the chain immediately S. and E. of Elbruz. The expedition, consisting of 14 men and 7 women, travelled to Mestia, in Suanetia, where its members split into three parties. The first, after having climbed to the crest of the Upper Zanner Pass, made a bivouac there for 5 nights, while they climbed first the rock-peak immediately N. of the Pass (Salyinan Bashi, 14,366 ft.)—for which Professor Nikoladzé proposes the unpronounceable name of DEVASARGVELSOULBACHI! It was climbed in 1888 by Cockin and Holder. [See 'A.J.' **14**, 92.] A section of the Georgian party subsequently repeated the ascent of LIALVER made by the Bavarians in 1928 ('A.J.' **41**, 167). Descending the mountain by its southern slope, the climbers lost their way in a dense mist and found themselves involved by night in the Zanner icefalls, not reaching camp until 9 A.M. Through all these difficulties the Suanetian porters are said to have shown great energy, endurance, and courage.

From their lofty bivouac the party descended directly to Bezingi and Chegem, whence they regained Suanetia by the frequented Tuiber Pass.

The second company left Mestia for Mazeri, a village under Ushba, and crossed by the Betsho Pass to the Terskol huts at the head of the Baksan Valley. In crossing the Azau Glacier they climbed a peak above it before descending to the Ullu-ozen glen, one of the sources of the Kuban. Thence they made an attempt to climb Kiukurtli Kol (15,168 ft.), a southern spur of Elbruz, but were stopped by steep rocks about 1000 ft. below the top. Starting from a camp beside the Kitchkine Kol Glacier, three of the party climbed a summit on the watershed of 13,683 ft. On the top they found a stone-man. An easy descent brought them to the valley of the Nenskra which their companions had reached by the Jiper-Karatshai Pass. The reunited company crossed by the Bassa Pass to

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the Nakra Valley and Suanetia, where sad news awaited them of the third detachment—composed of seven members—which had undertaken to attempt Tetnuld (15,918 ft.) under the leadership of Professor Nikoladzé. We leave Professor Nikoladzé to tell the story of his tragic adventure.

'Our party left Mestia on August 18. Avoiding Adish we reached the pastures above that village at a height of 7050 ft. There we pitched our tents for the night. Next day we continued in the direction of Tetnuld, and by night gained the foot of the long S. ridge that falls in the direction of Adish at a height of 9800 ft. and at a distance of 2 kilometres to the W. from the pyramid of Tetnuld. Here the radio-operator established his radio apparatus and sent out messages to different parts of the world. Next day the party (with the exception of the radio-operator, who remained behind) accompanied by three guides set off early in the morning along the top of the ridge and bivouacked at a height of 11,320 ft. on a rocky spur of the range overlooking the highest icefall of the Nageb Glacier. The following day we were to attempt Tetnuld, but during the night snow fell and a strong wind arose, making the attempt impossible. As the weather showed no sign of improvement, and we were completely drenched, it was decided to postpone the ascent and descend to Adish. On the following days the weather continued to be very uncertain and our time was spent in reconnaissance work; other ways leading up to Tetnuld were investigated, the Khaldé Glacier was explored, and, benefiting by the clear weather, an attempt was made to mount the rock-peak Lakutsa Laartkol, which rises east of the Adish Glacier. This attempt proved a failure, as the party took a wrong route. A second attempt was to have been made, but after some consideration we gave up this plan for the time being and returned to Tetnuld as the weather was becoming settled and conditions for an ascent were ideal. This time only three members, myself with Simon Djaparidzé and Pimen Dvali, attempted Tetnuld. We took no guides with us, as previous experience had proved that they were useless, as these regions were quite unknown to them. Two porters helped us to carry food and warm clothing as far as the last bivouac. From the side of the Adish Glacier we passed close to the foot of the mountain and climbed to the top of the southern spur at a height of 12,140 ft., where we bivouacked. At 7 A.M. next morning we set off for the ascent. The weather was ideal and we were in high spirits. Under given circumstances Tetnuld, it seemed, could hardly escape us; but what followed next proved that the unforeseen may occur. It was decided to ascend the southern slope of the pyramid which we would reach from the E. side. We descended on to the ice and attacked a very steep slope, where we had to use the axes. Simon Djaparidzé was leading and cutting steps in the ice. Next followed Pimen Dvali, and last myself. We had passed already three-quarters of

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this difficult and dangerous portion of the ascent when Dvali slipped and began to slide down. Simon Djaparidzé, seeing him in danger, grasped him by his shoulders, but in so doing also slipped and both were precipitated headlong into a huge crevasse. Only after six days of continuous search were the disfigured bodies of my companions discovered by the Suanetian peasants and brought down to Mestia. I owe my life to the fact that at the time of the catastrophe I happened to be a little way behind my friends as I was busy adjusting my shoe.

'The death of these two members of our Alpine Section is a severe blow, not only to their friends but to the Geographical Society of Georgia.'

We must hasten to express our sincere sympathy in the disaster which overtook Professor Nikoladzé's party. It is, we believe, the first fatal mountaineering accident that has occurred in the Caucasus since that to Donkin and Fox, when they and their guides met their death in 1888 while attempting Koshtantau. TETNULD, in favourable conditions and with the usual precautions, is not a dangerous mountain, and it would be a pity should it get a bad name, for the view, owing to its situation, is probably the finest in the Caucasus. On a clear day its snowy spire is prominent even from the Black Sea.

D. W. FRESHFIELD.

Mr. Freshfield sends the following comment on a question of nomenclature referred to in his note, 'A.J.' **41**, 168:

In my note on the Bavarian ascents in the Caucasus in 1928, I wrote that I did not think it likely that the party had reached 'the rocky spur of the Saddle Peak which in 1868 I called the Adish Peak.' I now desire to make it clear that my 'Adish Peak' is the crag standing out on the E. side of the great Adish icefall, marked on my map of 1895, and referred to by Professor Nikoladzé as Lakutsa Laartkol.

The 'Adish Tau' climbed by the Bavarians is, from my point of view, the S. and higher summit of Katuintau. I am confirmed in this conclusion by the photograph on p. 7 of Vol. ii of my 'Central Caucasus' which shows the double summit as resembling what I first compared it to, *not* a flat English but 'a Tartar saddle.' Katuin Tau appears to have some authority as a local name for this double eminence (see 'Central Caucasus,' Vol. ii, p. 36), and the sooner my 'Adish Peak' resumes its uncouth designation of Lakutsa Laartkol the better. It had better disappear both from maps and common use.

[For the remarkable list of climbs achieved by a German party during the summer of 1929, see under 'New' and 'Various' Expeditions.]

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NEW ZEALAND NOTES.

Miss Rosamund Harper, daughter of Mr. A. P. Harper, President N.Z.A.C., has been elected a member of the club. This is carrying membership of the club into the third generation, since Mr. Harper, senr., Miss Harper's grandfather, was the first President (1891) of the N.Z.A.C. and was the first man to cross—with three Maoris—the Southern Alps and go down the West Coast in 1857.

It is hoped to have a big 'National Park,' to cover most of the West Coast Alpine country, constructed shortly. Such a reserve would, of course, protect the flora and fauna for all time.

Captain H. E. L. Porter has accomplished the ascents of Douglas and Elie de Beaumont.

The Disaster on the Tasman Glacier.

On January 18, 1930, a party consisting of Miss Doris Herbert Brown, aged 38, Miss Helena Keane, aged 24, Miss Mary Monteath, aged 20, Miss Dorothy M. Smith, aged 26, together with the acting-guide J. E. E. Blomfield, aged 20, left the Hermitage (2444 ft.) for the Malte Brun hut: distant 24 miles (5700 ft.). They proceeded by motor for 10 miles, and walked a further 3 miles to the Ball hut (3900 ft.), which they left in good form and high spirits for the 8-mile tramp to the Malte Brun hut, where they spent the night. They reached the hut in 4½ hrs.—fair average walking. The weather on this day was threatening. On the way up they met Dr. Bradshaw and the guide Englestaad, who were going down to the Ball hut, and who had left the guide Charles Hilgendorf (aged 21) at the Malte Brun hut.

The party left the Malte Brun next morning in rainy weather *en route* for the Ball hut. The question of starting down in such weather was discussed, but as two of the girls were obliged to catch the next day's motor due out from the Hermitage, it was decided to set out despite the rain. This was a fatal decision, costing them all their lives.

They left the hut at 10.30 a.m., leaving the guide Hilgendorf to clean up. He followed at about 12 noon, when the weather appeared no worse than at 10.30 a.m. He had not gone far down the glacier when a violent storm gathered, accompanied by much thunder and lightning—so much so that he actually turned back for about 100 yards, but then changed his mind and again proceeded down in the storm. The wind was from the N.W. and of hurricane force, compelling Hilgendorf to crawl on the ice at times. The ice was very glassy and hard owing to the rain. Hilgendorf was wearing crampons, which gave him good foothold, but the rest of the party in

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front had nailed boots only. As Hilgendorf was battling his way down, probably about 2 hrs. after leaving the Malte Brun hut (and this portion of the way was the roughest of the ice travelling), he came upon Blomfield's rucksack, and about 80 yards farther on, the body of one of the girls, lying in a hollow, as if sheltering from the wind. Forty yards farther on he came to three more bodies close together, two of them lying in water and slushy snow. These latter he pulled out on to the hard ice. He stated that all were dead and already stiff. This was about 3 miles below the Malte Brun hut, and about half a mile below the De la Bèche corner.[1] He then made for the Ball hut in more moderate weather, reaching it at 3.30 P.M. in a somewhat exhausted condition. Dr. Bradshaw immediately went down to the Hermitage with the fateful news.

The guide Michael Bowie and 6 other men happened to be at the Ball hut; they at once set out towards the scene of the disaster, where they arrived in about 1½ hrs.—fast going. They took blankets, lanterns and food. On arrival at the scene they went on about 150 yards beyond the first three bodies and found the body of Blomfield, upon which they attempted resuscitation, but without result. He had obviously given most of his clothing to the girls, and had apparently been starting back towards the Malte Brun hut to obtain help from Hilgendorf. His knees and hands evidenced the fact that he had been crawling against the gale. The weather was still so severe and the party of 7 so obviously too small to attempt the removal of the bodies, that all they could do was to wrap them in blankets and return to the Ball hut.

The next day (Monday, January 20) the N.W. gale was still raging, but a party of 33 men was gathered from the Hermitage, the Public Works Camp on the motor track now in construction to the Ball hut, and from the Ball hut. Taking stretchers, they set out to attempt the recovery of the bodies. This party met with a severe buffeting from the gale, and after strenuous endeavour managed to reach a point on the glacier about 1½ miles below where the bodies lay. Several members of this party had to be assisted back to the Ball hut, and it was stated they were fortunate not to lose some of their number. It was an heroic attempt, but many of the men were insufficiently clothed and unaccustomed to glacier travel.

I reached the Hermitage at 10 P.M. on the Monday night, doing the last part of the journey from Fairlie by service car, which had some trouble in getting through flooded creeks over the last 11 miles of the road.

On Tuesday morning the weather was still stormy, but looked like clearing, so with Vic Williams, the head guide in charge, we left the Hermitage at 9.45 A.M.—a party of 15, comprising 7 guides and 8 volunteers, mostly seasoned men used to glacier work. We reached the Ball hut at 11.50 A.M. and added one to our number

[1] This spot is 2¼ miles in a direct line from the Malte Brun hut.

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there, setting out up the glacier at 1.10 P.M., with lanterns in case of need. The weather was then improving, and got finer as we went on. No inconvenience was felt from occasional snow showers. The way lay down a steep descent of about 100 ft., and across the Ball Glacier, then on to the clear ice of the Hochstetter below the great icefall; up this glacier about 1½ miles, then across the great medial 'Rudolf' moraine on to the dry ice of the Tasman—roughish, but easy going to any practised walker. About 1 mile above the point where the Rudolf moraine is crossed, is located 'Pine Apple Rock' on another medial moraine of the main Tasman Glacier. Here there is a cache of timber and iron destined for the projected new Malte Brun hut. We reached this spot—about half-way to our objective—at 2.30 P.M. From there we proceeded up the clear ice of the Tasman, reaching the scene of the disaster at 3.45 P.M., or 2½ hrs. from the Ball hut. We could have done it faster, but were conserving our party's strength, which we knew would all be wanted on the sad return journey.

It was a pitiful sight, and stirred the emotions of the strongest men. The faces of the deceased were in repose, but were all more or less mottled (ecchymosis), a condition which is usual, I am informed, with cases of death by exposure to cold and wet. The backs of their hands and fingers showed abrasions, particularly in the cases of Miss Brown and Blomfield. Whether these abrasions were in consequence of contact with the ice before death, or possibly by hail after death, is a matter of conjecture.

The subsequent medical examination of the bodies revealed no injuries except a few small abrasions, and the knees of the guide alone showed traces of crawling. The medical opinion given was that they died from cold and exposure, and that there was no evidence of anything else whatever. The doctor was unable to give an opinion as to the length of time in which it is usual for a person to perish by exposure.

We reverently placed the bodies upon the stretchers, but soon found that carrying was out of the question, as the numerous crevasses and water holes were all hidden by about 6 inches of new snow through which the carriers were continually falling. We therefore improvised sledges of the stretchers with teams of 3 men to a load, and dragged our sad burdens down the glacier. Even then every man of the party had his turn at going into crevasses or water holes—indeed, one could not look down the line of sledges without seeing a man down. Some few of us who were wearing crampons were better off than others, as ordinary nailed boots slipped under the strain of pulling, whilst crampons gave a surer foothold. It was desperate work, and at every stoppage the improvised sledges froze to the surface and were hard to start again. After about 2 miles the snow thinned out and we were compelled to carry the bodies, amongst the ridges and hollows of the ice and occasionally on the thin moraine of rocks. After about 1 mile of

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such carrying we reached ' Pine Apple Rock ' where the bodies were left decently covered with a tarpaulin from the timber dump. It was now 7 P.M. and we started on our return to the Ball hut for the night. About 1 mile below ' Pine Apple Rock ' we met Mr. Charles Elms, manager of the Hermitage, and Mr. D. McCormack, the head man of the Construction Camp, coming out with a supporting party of 14 men. Though darkness was coming on, this party and several of our own went back to ' Pine Apple Rock ' and brought all the bodies down another mile or more to the crossing-place in the Rudolf moraine. This large medial moraine lies between the clear ice of the Tasman and Hochstetter Glaciers (which here unite) and is about a quarter of a mile in width, rising to about 100 ft. above the clear ice on either side. The last of the carrying party came into the Ball hut at 10.30 P.M., and about 30 men slept there that night.

Next morning, Wednesday, January 22, a party of 23 men set our from the Ball hut at 4.45 A.M., and by dint of great exertion came in there with all the bodies by 8 A.M. A further carry of 3 miles—6 men to a stretcher—brought all to our waiting motors, 3 miles below the Ball hut, by 11 A.M., and we reached the Hermitage at noon. An inquest was held in the afternoon, the verdict being ' Death by exposure in an Alpine blizzard.'

Such in short is the history of this terribly sad fatality.

Since the inquest I have ascertained that the watch of my niece, Miss Doris Brown, was stopped by water at 12.49 P.M. Two other watches resisted the wet and showed 6 o'clock and 7.15 o'clock respectively. Apparently they had run down. It has also been revealed that some spare unused cardigan jackets were in the ladies' rucksacks.

In my own mind—after some 44 years of Alpine experience (during which I have been caught in many Alpine storms) and from a study of accidents reported in Alpine literature, I am disposed to attribute the very speedy deaths of the party to the effects of lightning, though the bodies showed no sign of burning. I understand this is not always the case. Severe lightning was observed in the vicinity of the disaster by parties at the Haast Memorial hut (7000 ft. up on the Mt. Cook route), from the Ball hut, and by the guide Hilgendorf, coming down from the Malte Brun hut, whose axe was hissing and spluttering to such an extent that he towed it behind him with straps rather than risk carrying it in his hand. The wet condition of their clothing would also be favourable to the conduction of electric fluid.[2] Subsequent researches of medical text-books tend to confirm

[2] See, however, *A.J.* **38**, 97, where Mr. Smythe affirms on medical and scientific authority that his escape and that of his companions was due to the *soaked* condition of their clothing: ' . . . the electrical fluid naturally ran down my wet clothes in preference to my body.' But, personally, we think that Mr. Mannering's opinion is correct.—*Editor.*

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the theory of death by lightning, especially as regards the early rigidity of the bodies and the accompanying ecchymosis.

No scrap of writing was found on any of the deceased, who were apparently overwhelmed suddenly. They were in the 'slushy area' of the glacier where the melting begins on the surface snow—two of the bodies being in water—but the wind was quite strong enough to have blown them there after death. With one exception the girls' clothing was inadequate to resist stormy weather conditions.

The obvious lesson to learn from this terrible affair is that the guides' regulations—or rather the lack of regulations at the Hermitage—are not what they should be. Neither is there sufficient precaution as to the clothing of parties. One young guide to four ladies, three of whom were quite inexperienced—even for a walk up the Tasman—is not sufficient.

The New Zealand Alpine Club is now endeavouring to get instituted regulations as to guiding, somewhat on the lines ruling in Switzerland, with a view to make the future safer for climbers and tourists. We have, so far, in New Zealand been singularly free from fatalities in the Tasman district. This is the only fatal accident since that of February 1914, when Mr. S. L. King with the guides Thomson and Richmond were killed by an avalanche on the Linda Glacier. No doubt freedom from accident has been due largely to the care exercised by the local guides; but the very absence of accidents has become a source of danger by lulling us into a sense of security and blinding us to the risks taken during the tourist season at Mount Cook Hermitage. Alpine accidents are traceable to bad weather conditions, and even such a simple walk as that up the Tasman Glacier may at any moment become positively dangerous in a 'New Zealand' storm.

With a view of minimizing the risk from bad weather on the Tasman Glacier, I would recommend the immediate building of two small shelter huts on skids—on the ice—weighted with rocks from the adjacent moraines. It would be useless to build such huts at De la Bêche Corner (near where the trouble occurred) or upon the rocks of the Malte Brun range, as both sides of the glacier are always heavily crevassed, and such refuge huts would be quite difficult to reach from the smoother ice always obtaining in the middle of the glacier, which is the route generally taken between the Ball and Malte Brun huts. Huts on the ice would not move down more than about 180 yds. annually, and could be levelled from time to time as required. These suggestions are being entertained by the Mount Cook Tourist Company.

Of the sorrow and grief arising out of this tragedy I make no attempt to write; no mere words can express my feelings.

G. E. MANNERING.

Mr. A. P. Harper in commenting on this accident points out that the fact of Hilgendorf meeting the full force of the storm and only

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taking 3½ hrs. from hut to hut, seems to indicate that though the storm was a very bad one, it was not unprecedently so—similar storms have been experienced by many N.Z. mountaineers in the past. It is, of course, possible that the severe thunderstorm may have in some way stunned the party, but even so, it is obvious that no party should have left the hut in the face of a Nor'wester *and in rain*, with such scant clothing. The fault, in Mr. Harper's opinion, lies in the want of proper systems, as it seems to be no one's responsibility[3] to overlook or advise travellers; otherwise it is unbelievable that the girls would have been allowed to go so unsuitably dressed—for even on a two-days' glacier trip, weather conditions may change so suddenly that emergency clothing should always be carried.

The young guide Blomfield (age 20), who perished, was amply qualified to conduct on such a simple expedition, but it is possible that in his short two seasons' experience he had never been in such a predicament, and familiarity with this hackneyed expedition may have made him fail to realize the risk of sudden bad weather—otherwise it is hard to imagine why he also was totally unprovided with suitable clothes. The fact that Hilgendorf, who was properly clothed, faced the same conditions without ill effects, seems to prove that inadequate clothing was responsible for the fatality.

[It remains to us to express the deep sympathy of the Alpine Club with our member Mr. Mannering and the relatives and friends of the young victims.—*Editor*, 'A.J.']

CANADIAN AND AMERICAN NOTES.

Glacier House in the Selkirks now Demolished.

Glacier House, on the Illecillewaet river in the Selkirks, ceased to exist about November 22 last, when the contractor, Mr. H. McHugh of Calgary, completed the wrecking of the old rambling wooden hotel. All lumber, doors, windows, pipes, radiators, stoves, and other fittings worth removing were shipped away by train, and fire was set to all rubbish left. The ground was completely cleared and the site left as near as possible as it was before the small hotel was built in 1887, as the Canadian Pacific Railway refreshment room, there being no dining-cars on the trains at that time. The old hotel at Field was opened about the same time for the same purpose.

During last July the old mountaineers attending the camp of the Alpine Club of Canada at Rogers Pass watched the wrecking of the dear old mountain home with sorrow. The many happy seasons

[3] See *N.Z. A.J.*, No. 15, pp. 352–4.

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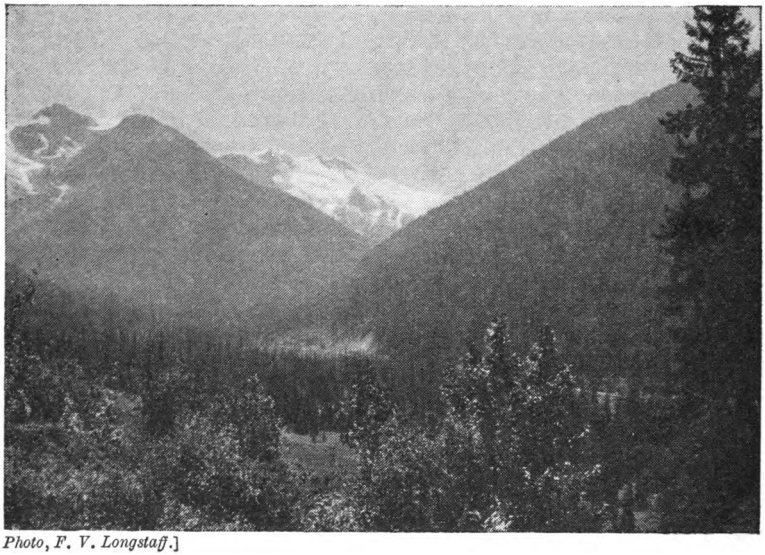
when Glacier was managed by the late Mrs. J. M. Young were also recalled with pleasure. Mrs. Young died in Vancouver City in April 1925.

Glacier House was closed to the public at the end of the 1925 season, so that, starting in 1887, the house had been open for 38 seasons for visitors to this secluded and narrow valley high up in the Selkirk Mountains. The season of 1916 was the last in which the trains passed by the hotel door. The Connaught tunnel was opened for traffic on December 6, 1916. In the next season a horse



Photo, F. V. Longstaff.]

SITE OF OLD 'GLACIER HOUSE.'

stage took on the transportation to the hotel from the new Glacier station many hundred feet below.

Mr. F. W. Godsal, of Victoria, B.C., formerly of Macleod, Alberta, was the oldest member of the Alpine Club of Canada in camp at Rogers Pass last July. It is interesting to note that his name occurs fourth on the list in the Visitors' Register at Glacier House and is entered on February 4, 1887. The last entry of the first book is on the eighth page from the end, July 31, 1904—Mr. F. M. Bell Smith, Toronto, the famous water-colour artist whose heart was in the mountains. All the four Visitors Books are being preserved in British Columbia.

The Department of the Interior has recently decided that the new transcontinental motor road is to avoid Glacier Park by following the Great Bend of the Columbia river where the snowfall is much less than over the Selkirks. This will enable this National Park

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to be preserved as the one holiday Alpine area free from motor traffic.

It is the intention of the Canadian Pacific Railway Hotel Department to erect a modern stone mountain hotel of some 200 rooms as soon as possible. It will probably be rectangular and be placed on the flat ground where was the old lawn, so as to be clear of the forest fire hazard and economical to manage.

FREDERICK V. LONGSTAFF.

REVIEWS.

Alai! Alai! By Willi Rickmer Rickmers. Pp. 300, profusely illustrated. F. M. Brockhaus, Leipzig. 1930.

THIS most interesting book is a record of the work done by a combined German and Russian expedition in 1928 in exploring the Alai-Pamir, the principal mountain range of Russian Turkistan. The expedition consisted of twelve Germans under the leadership of the author, including four selected specially to be a climbing party, and a number of Russians who joined them from time to time. Although on previous occasions the author, who had made eight expeditions into Turkistan between 1894 and 1913, had been refused admission to this region, on this occasion the expedition was given every facility by the Russian authorities.

The expedition was planned with the object of carrying out a complete survey of a practically unexplored region, and mountaineering was looked on as merely incidental to this purpose. The interest of the book is mainly geographical and scientific and descriptions of climbs occupy only a small portion of it, although it records the ascent of four peaks from 6000 to 7000 m. and seventeen from 5000 to 6000 m., not to mention lesser heights ascended for the purpose of surveying.

These mountains are comprised in two groups: the main group at the head of the Fedchenko Glacier, which was found to be 75 kilometres in length and thus the longest glacier in the world; and the Transalai group to the N.E. including Mt. Kaufmann, 7130 m., the ascent of which was achieved by Allwein, Schneider and Wien, who thus nearly equalled Dr. Longstaff's record on Trisul. The expedition further discovered that Pik Garmo to the W. of the Fedchenko Glacier is actually higher than Mt. Kaufmann. An attempt on this mountain failed, but its height was calculated as being 7500 m.

The plan of operations was to concentrate on the head of the Tanimas river on the E. side of the main group. The huge glacier reported by a previous explorer to fill the upper part of the valley was found not to exist, but the valley was blocked by a large glacier flowing N. and S., called by the party the *Notgemeinschaft Glacier.*

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They established a camp above this glacier at a height of 3550 m., providing the headquarters of the expedition. Another camp was established at 4300 m. on the pass at the head of the Tanimas Valley, which was found to lead on to the Fedchenko Glacier. Thence several peaks at the head of this glacier were climbed and a very difficult passage made to the W. to the valley of the Vanch over the Kashal Ayak Pass, which was thus proved to exist in fact as well as in legend. In addition to these mountaineering operations in the two main groups, different parties surveyed the whole ground to the S. as far as the Afghan and Indian frontiers.

The main portion of the book consists of the diary kept by the author, in which are included the messages sent in by the various parties from time to time. This, as the author says, is somewhat difficult to follow, but is made much less so by the excellent map indicating the routes pursued. There are separate accounts of these by five members of the expedition. The brief descriptions of the climbs are written with great restraint, and one only gets an occasional glimpse of the serious dangers and hardships encountered. Scientific observations were often carried out under great difficulties. An attempt on the 'Dru' at the head of the Fedchenko Glacier failed because the party was overtaken by an avalanche, and on Mt. Kaufmann intense cold was suffered, resulting in all three climbers being afflicted with frostbite, one of them rather seriously. On pp. 126–128 there are some interesting remarks concerning acclimatization to altitude. The conclusion is reached that young and vigorous climbers possess an unlimited capacity for acclimatization and could climb Everest with heavy rucksacks and without oxygen.

The preparations made for the expedition were on a most extensive scale, the leader being of the opinion, justified by the event, that one expedition thoroughly equipped can accomplish what would exceed the capacity of several which disdain the use of all the available resources of modern organization.

The book contains besides the map, ninety photographs, some of great beauty, twenty-five diagrams, and two panoramas. Altogether an excellent production, on which the author is to be congratulated as well as on the success of the expedition.

Travels and Reflections. By the Right Hon. Noel E. Buxton, M.P. Pp. 223. Illustrated. London: George Allen & Unwin, Ltd. 1929. Price 10*s.*

Mr. Noel Buxton, though regrettably not yet qualified for membership of the Alpine Club, has had the privilege of close lineal propinquity with it in the persons of his father and uncle, the late Sir T. Fowell Buxton and Mr. Edward North Buxton, distinguished members two generations ago, as well as in that of a nephew still, happily, with us. His taste for travel in mountain lands, and the unusually intelligent use he has made of his exceptional opportunities for indulging it, owes much to their example and encouragement.

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Moreover, a close friendship with one of the most gifted and sagacious of the Presidents of our Club, the late Lord Bryce, led to his devoted interest in and prolonged efforts on behalf of the fortunes of the inhabitants of Balkan mountain ranges in their struggle for freedom from all that Turkish misrule and cruelty have been responsible for during the last 30 or 40 years until that struggle culminated in their virtual expulsion from the Continent of Europe as a result of the Great War.

As Chairman of the Balkan Committee of the House of Commons during the years of its sustained activities, Mr. Buxton had exceptional facilities afforded him for travel and observation in the regions in question. How well he has utilized them will be speedily realized by even the most superficial perusal of the chapters devoted to them, for it has seldom fallen to one's lot to meet with so striking a combination of thrilling personal adventure, charming sketches of natural scenery of many and varied kinds, and suggestive and stimulating reflections upon the events related and the lands and people with whose fortunes he deals. Throughout the whole runs a never-failing sense of humour which lightens even the most sombre scenes. When about to set out for the Balkans he told the Turkish Ambassador in London that he was going in search of health, and 'in particular for an affection of the throat': the Ambassador quaintly replied, 'It is not a very good place for throats!' Such, indeed, Mr. Buxton found to be the case on a subsequent occasion, though not wholly in the sense then intended. For in Sofia he occupied the next room to an emissary of the Turkish Government itself, sent—in the early days of the Great War—to assassinate himself and his brother, Mr. C. Roden Buxton, when on their way to Bucarest for the funeral obsequies of King Carol of Rumania. Finding, however, that there was no death penalty in Bucarest he followed his prospective victims thither. Firing at point-blank range, he only narrowly failed in his task, breaking Mr. Noel Buxton's jaw and shooting his brother through the lung. When subsequently interrogated as to his crime he was asked, 'You failed to kill Mr. Buxton; did you think he was protected by God?' 'No,' was his reply. 'I thought the cartridges must be bad!'

But it is the mountain interest, so to speak, of this remarkable book with which the pages of the ALPINE JOURNAL are more properly concerned. But wherever the writer takes us, the human interest is always inseparable from it, as when crossing the wild borderlands between Turkey and Persia where the prevailing impression carried away is neither of Turk nor Persian but of the Kurd, and his hectoring ways with Turk or Christian alike. The chapter on the Balkan hills is a singularly graphic and lucid description of the 'mountain chaos' that constitutes a confused extension of both the Alps and the Carpathians. He believes they have a future, and that no distant one as a new and fashionable Switzerland at least in the matter of its lakes, for 'there does not exist in Europe

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anything more picturesque than the lake of Ochrida, where all that is attractive in the old towns of Italy is combined with the contrast of the isolated peak above the lake—and the plain in which it stands, the wooded hills beyond the plain and the interminable ranges of the Albanian mountains showing purple behind the lake.' In 'Round about Ararat' we are reminded of the travels of Lord Bryce and Mr. Douglas Freshfield, while 'In the Sahara' we have an entertaining sketch of the uses and the vagaries of the 'desert car.' This destroyer of peaceful travel is also responsible for the destruction of much of desert romance, but Mr. Buxton is of opinion that motoring over the dunes provides such novelty as almost to constitute a sport, and that 'just as the English invented "Winter-sport" in the snow, they will develop a game out of the dunes for which the next generation will be swarming to Africa instead of to Switzerland.'

The chapter on 'Mountaineering in Japan' gives us the writer in an atmosphere wholly free from the note of sadness inseparable from so many of the scenes described in most of the rest of the book. The climbs he describes are none of them such as involve 'technical' difficulties, though the ascent of Fuji still clad in its white winter mantle afforded some 6000–7000 ft. of gradually steepening snow, and a final view of the whole of the widest part of the mainland of Japan, lying stretched at one's feet as a gigantic relief map in the freshness of its incomparable spring beauty. Of the dramatic and curious consequences of this expedition, of the 'first ascent by a foreign traveller' of Ena-San, and of the 140 eggs consumed by the three hungry Englishmen in the three days it occupied, and finally of the boisterous behaviour of the active crater of the volcano Baudai-San and the destruction wrought by it, we can say nothing in detail. But we do seem justified in quoting the wise advice with which Mr. Buxton concludes a book of travels and reflections of entirely unusual interest and merit: 'While there is yet time, the reader should bestir himself and set out on his pack-horse before the oncoming flood of Westernism engulfs the colour and romance of the remaining untamed regions of the world.'

Fiction versus Fact; The Revival of a Fable.[1]

It may at times be difficult for a critic to draw the line beyond which any attempt in a biography or a historical romance to colour or distort facts, or to caricature characters, becomes a breach of good manners. The reader's judgment will be influenced chiefly by the tact shown by the author in avoiding obvious misstatements, and his skill in making his embroideries harmonize with the authentic material he has at hand. There have been lately signs of a growing disposition to disregard altogether the line in question. We have seen on the Continent 'Producers' who do not shrink from

[1] *Jacques Balmat du Mont-Blanc*, par Rochat-Cenise. Société Française d'Éditions littéraires et techniques, Malfère, Paris. Fr. 12.

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travestying even the tragedy of the Matterhorn in order to provide a more attractive entertainment for their patrons.

The compiler of the volume lying before us is relatively but a venial offender. In ordinary circumstances we might have let him pass unrebuked. M. Rochat-Cenise is a literary butterfly who, like the adventurous insects we often find frozen on the loftiest snows, has flitted beyond his proper sphere. In so doing he has alighted fortuitously on the annals of Mont Blanc. In the story of its early climbers he has recognized a human interest which might serve him as material for a bit of book-making. To suit the taste of the tourist crowd and the bookstalls and of 'Ceux de Chamonix' (to whom he dedicates his volume), he felt at once the need of a hero and a villain. In the legend as first narrated by Dumas père he found both at hand. Jacques Balmat asked for nothing better than to pose as the hero. Some material for assigning to Dr. Paccard the part of the villain was eagerly sought for. M. Rochat-Cenise calls on us to watch Balmat riding backwards and forwards astraddle on the Bosses arête 'with one leg hanging over *France* (in 1786! he means Savoy) and the other feeling for an undiscoverable foothold on the side of Italy.' The top of Mont Blanc gained, we are offered a tableau. 'Balmat, dressé, les bras étendus, crie aussi fort qu'il le peut. Il crie son nom, un nom qui vient de devenir illustre. JACQUES BALMAT.' His feelings thus relieved he remembers his companion, whom he has left in a state of collapse. 'Il est à bout, il n'en peut plus. Il refuse désormais de faire un seul pas en avant. Jacques Balmat laisse alors derrière lui cette loque affaisée'—this worn-out rag!

Poor Dr. Paccard! He is allowed no qualities either physical or moral. To make the contrast with the noble peasant still more striking he is even accused of forgery, of having in the matter of the signed and witnessed Declaration of 1787 shown 'Une belle petite âme de faussaire.'

Were it worth while it would be easy by multiplying a list of M. Rochat-Cenise's inexactitudes to exhibit the extent to which he has tampered with the material at his disposal. But we grudge the space: one specimen may be enough; it refers to a crucial point in his argument. The following paragraph is copied from p. 149 of his volume:

'Le livre de Paccard vit le jour à Lausanne, dans le pays de Vaud, à la fin de 1786. Cela s'appelait "Premier voyage à la Cime de la plus haute Montagne de l'ancien continent, le MONT-BLANC, par M. le Docteur Paccard, Michel-Gabriel, médecin dans les Alpes de Chamonix." Dans le texte, Balmat tenait le rôle du plus modeste des auxiliaires tandis que l'auteur, se taillant la part du lion, prenait pour lui le mérite d'avoir réussi l'entreprise et celui d'en avoir eu l'idée.'

No assertion could be more definite and explicit. Unluckily for M. Rochat-Cenise's credit it has been established by the most thorough research that Dr. Paccard's account of his ascent, eagerly

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expected at the time by De Saussure, though duly announced, never saw the light.

M. Rochat-Cenise, as all competent critics will by this time have recognized, has produced a romance masquerading as a biography. Some of our readers may perhaps think his potboiler might well have been left to the public to whom it is addressed. It would, probably, have escaped our notice had not its author met with an injudicious friend in a reviewer in the last November number of *Die Alpen*. That valuable periodical is, as is well known, the official organ of the Swiss Alpine Club and is announced to be edited by its Central Committee. In the above number [p. 251] we find a notice of M. Rochat-Cenise's book, brief it is true, but expressed in terms of the highest appreciation. The following two sentences may be taken as specimens of its exuberant character :

'C'est la vie toute entière du guide que Rochat-Cenise expose à nos yeux, avec un tel entrain, avec un tel ardeur de vérité, que ce bel ouvrage se lit d'un seul trait, et se relit encore avec plaisir.'

'Ce livre est un des plus beaux que nous ayons sur l'histoire de la Montagne.'

The incompetent reviewer, it must be noted, exhibits his—or her—'ardeur de vérité' by accepting, despite the conclusive evidence available to the contrary, M. Rochat-Cenise's assertion that Dr. Paccard's account of his ascent was published in 1786.

As we all know, it never was published ! Can it be that M. Rochat-Cenise's reviewer has had in his hands the ALPINE JOURNAL (Vol. 41) and has first omitted to notice the words 'attempted reconstruction' in the title of Dr. Stevens's ingenious paper, and then failed to read, or understand, its first sentences, so that when he set himself down to write a hasty note he was under the delusion that he had under his eyes an authentic reprint of Dr. Paccard's 'Lost Narrative' ? The supposition may appear at first sight extravagant; but, as far as we can see, it is the one least improbable.

When we turn to our shelves and recognize Dr. Dübi's classical work of 300 pages, 'Paccard wider Balmat,' issued in 1913, while he was still editor of the *Jahrbuch* of the Swiss Alpine Club, we feel forced to express our astonishment and regret that the reasoned verdict of our Honorary Member, one of the highest authorities on Alpine literature, should have been so carelessly flouted by his colleagues. Doubtless an oversight on the part of the Editorial Committee: but an oversight that calls loudly for correction ! Our veteran colleague has all our sympathy.

D. W. F.

Alpine Flowers. By Dr. Gustav Hegi. Translated by Winifred M. Deans. Blackie & Son, Ltd. Price 7*s.* 6*d.*

IN this translation of the 6th edition of the German 'Alpen Flora' we are reminded of a very similar publication by Professor Ludwig Schröter bearing the same title. The English translation of Dr.

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Gustav Hegi's book, now under review, appeals to us because it is an improvement both as to accuracy of the colours of the plants therein depicted, which are produced in Germany by the chromo-lithographic process, and also because of the letterpress which is of English production. It possesses over 250 illustrations (mostly in colour) of the commoner Alpine flowers, together with simple, non-technical descriptions, indexes of plant names, and a glossary of botanical terms.

To the tourist and visitor to the Alps who may not be acquainted with the botany of the hills, this conveniently portable book is to be recommended. It should add to the pleasure of a holiday, and help one to be an enthusiastic botanist of Alpine plants.

Der Grossglockner. Hsg. von Hans Fischer. München: Rother.

THIS is a compilation of various interesting articles with 64 plates, including reproductions of old pictures and early maps. There is an historical article by A. Stois: an article on geology by Hans Leitmeier: on the glaciers by V. Paschinger: on Johann Stüdl and Karl Hofmann's explorations: on ski-ing by E. Friedl: on unusual ascents and problems by F. Tursky: and on Pallavicini's expeditions by R. Ratscher.

THE ALPINE CLUB LIBRARY.

By A. J. MACKINTOSH.

The following works have been added to the Library:—

Club Publications.

(1) **Akad. Alpenclub Bern.** 24. Jahresbericht 1929. 9 × 6: pp. 45: plates.
(2) **Akad. Alpen-Club Zürich.** 33. Jahresbericht 1928. 9 × 6: pp. 30: plates.
(3) **Akad. Alpen-Verein Berlin.** 25. Jahresbericht 1928. 9½ × 6¼: pp. 62: plates.
(4) **Akad. Skiklub Stuttgart.** Jahresbericht 1928–29. 8½ × 5¾: pp. 62: plates.
(5) **Alpenverein Donauland.** Nachrichten. 13 × 9¾. 1929
(5b) **Alpine Club.** Journal. 1929
—— Index to the ALPINE JOURNAL. Vols. 16–38. 8½ × 5½: pp. 90. London, Spottiswoode, 1929. 10*s.*
(6) **American Alpine Club.** American Alpine Journal, no. 1. 1929
(7) **Appalachian Mountain Club.** Appalachia. 1929
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(9) —— **Lyons.** Revue Alpine. 1929

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(10) **C.A.F. Sect. du Sud-ouest.** 3 sér. 1927–9. 10 × 6½: pp. 579. 1929
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(12a) —— —— Alpi Giuglie. 1929
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(12b) —— **Udine.** In alto. 1929
(12b) —— **Verona.** Bollettino mensile. 1929
(13) **Cairngorm Club.** Journal. 8¾ × 5½: ill. 1929
(14) **Canadian Alpine Club.** Journal. 9 × 6: ill. 1929
(15) **Club alpin belge.** Bulletin. 1929
(16) **Club alpin d. femmes suisses.** Les Montagnes. 1929
(17) **Colorado Mountain Club.** Trail and Timberline. 9 × 6. 1929
(18) **D.u.Oe.A.-V.** Zeitschrift. Bd. 60. 10¼ × 7¼: pp. 366: map, plates. Geleitet von Hans Barth. 1929
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(19) —— Mitteilungen. 1929
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(27) **Naturfreunde Alpinistengilde.** Bericht über 1928. 9¾ × 6¾: pp. 22.
(26) **Nederland. Alpen-Vereeniging.** Medeelingen. 1929
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(29) **Peñalara.** Boletin mensuel. 1929
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(30*a*) **Prealpi.** Federaz. prealpina Milano. 1929
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(31) **Real Sociedad Española de Alpinismo Peñalara.** Peñalara. 9½ × 6¾. 1929
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'It was in one of the visits to Hatfield that we heard of a crushing family calamity. Frank Balfour had recovered so well from his illness, that there was no reason for giving up his annual alpine summer holiday. . . . He looked in perfect health and full of eager anticipation for an expedition he had planned. As he described his plan, Arthur said, "Don't get killed—it would be such a bore," we all laughed at the inadequate expression. . . . On the 24th July the tidings of his death reached Cambridge where he occupied the chair of animal morphology. The bodies of him and his guide had not been recovered. It was the first time that a violent and sudden death had come into our ken; it seemed so inconceivably wasteful and terrible. We were soon on our way to Carlton Gardens where we met the other members of the family as they arrived. As Arthur entered, one look at his face was enough to tell us how his very being was struck down.

'On the 26th Gerald telegraphed the bodies had been found, death had been instantaneous, and the accident had occurred on the 19th.

'The brothers returned with the coffin and we went to Scotland where Frank was to be buried at Whittinghame. . . .

'The Queen commanded Sir Henry Ponsonby to write to Mr. Gladstone; "If you think she can say anything to mark her disapproval of the dangerous alpine excursions." Mr. Gladstone at some length doubted the possibility of any interference even by Her Majesty, with a prospect of advantage.'

(39a) **Beauman, E. B.** A night in the Matterhorn couloir. In Nation. Review, London. 9¾ × 6: pp. 1058–62. March 1930
(40) **Bergkamerad.** 12½ × 9½: ill. 1929
(41) **Bergsteiger.** Wochenschrift für Alpinismus. 1929
(42) **Bertram, Antony.** To the mountains. 7¼ × 5: pp. xi, 269: plates. London, Knopf, 1929

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(43) **Blazer, F.** Mes souvenirs de montagne. 7½ × 4¾: pp. xv, 238: plates. Grenoble, Arthaud, 1929

Mountaineering incidents in Dauphiné and Savoy and on 'Les Alpins,' together with verses written on various occasions in connexion with both these. 12 frs.

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(44) **Bobba, Giovanni.** La guida di un tempo: Casimiro Thérisod, In Giornale d' Italia. November 17, 1929
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(46) **Buxton, Noel.** Travels and reflections. 8½ × 5½: pp. 223: plates London, Allen & Unwin (1929), 10*s.*
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(47) **Chilvers, Hedley A.** The seven wonders of southern Africa. 8 × 5: pp. xii, 395: plates. Johannesburg, S.A. Railways, 1929

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(48) **Coste, Jean.** Ame d'alpiniste. Pensées extraites de la correspondance et des érits de Jean Coste. 7¾ × 5¼: p. 196. Grenoble, Arthaud, 1929

(48b) **Crowley, Aleister.** The spirit of solitude. An autobiography subsequently re-Antichristened The Confessions. 2 vols. 10¾ × 7½: pp. v, 284, 307: plates. London, Mandrake Press, 1929

(49) **Deutsche Alpenzeitung** (und Alpenfreund) 24. Jahrg. 10. Jahrg. 12½ × 9½. München, Bergverlag, 1929

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(57) **Gaillard, Emile.** Guide pour l'Alpiniste. Les Alpes de Savoie (Tome vi, 2e partie): Le Massif du Mont Blanc (Groupes des Aiguilles de Chamonix, du Géant, des Grandes Jorasses et de Talèfre). 6 × 4: pp. iv, 237: ill. Chambéry, Dardel, 1929. 28 frs.

(58) —— Les Alpes du Dauphiné (Premier volume): Les Massifs de Belledonne et des Sept-Laux. 6 × 4: pp. xv, 198: ill. Chambéry, Dardel, 1929. 22 frs.

(59) —— Les Alpes du Dauphiné (Tome deuxième): Le Haut Dauphiné première partie. La Meije et les Écrins (du Signal de Pied-Montet au Col de la Temple). 6 × 4: pp. xvi, 339: maps, ill. Chambéry, Dardel, 1929. 26 frs.

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A finely and much illustrated volume.

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(67) **Hood, Mount.** The naming of Mount Hood. In Geogr. Journ., vol. 75, no. 2. 9¾ × 6: p. 273. February 1930

(68) **Huf, Hans, Hsg. von.** English mountaineers, A. Wills, J. Tyndall, E. Whymper, C. Dent, A. F. Mummery. Neusprachliche Klassiker 51. 7½ × 5: pp. 87: plates. Bamberg, Buchner, 1926. M. 1.80
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(78a) **Poland.** Les terrains de ski en Pologne. 8 × 5½: pp. 48: ill. Warsaw, 1930

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Items.

Stamps. Switzerland mountain views 'pro juventute 1929,' 5c., 10c., 20c., 30c.: air stamps, 15c., 25c. Presented by Col. Strutt.

Vallot. Carte du massif du Mont Blanc a l'échelle de 1:20,000. Feuille 9 Argentière: 14 Talèfre. Chambéry, Dardel (1929)

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PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, November 5, 1929, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Messrs. George Francis Abercrombie, Walter Hermann Amstutz, Claude Evrard Aldington Andrews, Alfred Maurice Binnie, Richard Arthur Fanshawe, Joseph Esrey Johnson, Hugo Nicolaus Pallin, Alford Rogers, Malcolm Hurworth Slater, and Charles James Tipping.

The PRESIDENT mentioned that since the last Meeting the Club had suffered the loss of four members, namely, Mr. R. F. Norton, K.C., Mr. H. V. Reade, Mr. W. Cecil Slingsby, and Mr. D. Wintringham Stable. Several members said a few words of appreciation of the deceased.

The remainder of the Meeting was devoted solely to the business of the Club, and no Paper was read.

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THE ANNUAL GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Monday, December 9, 1929, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Messrs. Philipp Borchers, Edward Ronald Culverwell, K. Neville Irvine, Hans Lauper, Sir Joseph W. L. Napier, Bart., James Basil Oldham, and H. George Watkins.

In accordance with the provisions of Rule 29, there being no other candidates, the PRESIDENT declared the following members elected as Officers of the Club, and Elective Members of Committee for the year 1930, namely:

Vice-President.—Mr. G. P. Baker in the place of Mr. E. H. F. Bradby, whose term of office expires.

Elective Members of Committee.—Messrs. A. E. Field, J. R. Robson, and J. O. Walker, in the places of Messrs. R. S. Low, E. F. Pilkington, and W. M. Roberts, whose terms of office expire.

The President, Dr. Claude Wilson, the Vice-President, Mr. W. N. Ling, the Honorary Secretary, Mr. Sydney Spencer, and the other Members of Committee being eligible, were duly re-elected.

Mr. J. E. C. EATON proposed that Messrs. Reginald Graham and H. J. Macartney be elected Auditors to audit the Club Accounts for the current year. This was seconded and carried unanimously.

The PRESIDENT made an announcement with regard to the Alpine Club Appeal Fund, and said that donations received and promised totalled nearly £4000. The response so far was gratifying, but it was hoped that still more members would join in.

At the request of Mr. F. N. ELLIS, the President informed the members that the repairs of the roof of the English Church at Riffelalp had been completed, and he (Mr. Ellis) wished to thank the Members of the Club who had so generously subscribed towards this object.

General BRUCE desired the President to announce that he had received thirty pairs of puttees from India and that they were in the hands of the Assistant Secretary for sale at 4s. a pair. *Note.*—All these puttees were disposed of immediately after the Meeting.

Dr. N. S. FINZI then read a Paper entitled 'The Scheidegg Wetterhorn by the N.W. face,' which was illustrated by lantern slides. Discussion, and then a very cordial vote of thanks to Dr. Finzi, followed.

THE ANNUAL EXHIBITION OF PHOTOGRAPHS was opened on Monday, December 9, 1929, and in connexion with this the Club held an 'At Home' on the afternoon of Tuesday, December 10, when some 420 members and their friends attended.

THE ANNUAL WINTER DINNER of the Club was held at the Hotel Victoria, Northumberland Avenue, London, W.C. 2, on the evening

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of Tuesday, December 10, 1929, at 7 P.M. Covers were laid for 294, and the official guests of the Club were the Rt. Hon. Lord Rayleigh, F.R.S., Sir Humphry Rolleston, K.C.B., M.D., D.C.L., LL.D., Sir James H. Jeans, D.Sc., F.R.S., Dr. Alexander Russell, LL.D., F.R.S., Mr. G. T. Glover, *President* of the Scottish Mountaineering Club, Mr. H. J. Mothersill, *President* of the Rucksack Club, Mr. Wallace May, *President* of the Association of Midland Mountaineers, Mr. G. L. Bartrum, *Vice-President* of the Climbers' Club, and Mr. W. A. Wright, *Vice-President* of the Yorkshire Ramblers' Club.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, February 4, 1930, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Dr. Maurice Bevan-Brown and Mr. Kenneth A. Henderson.

The PRESIDENT referred to the death of Mr. H. Entwistle Bury, who was elected in 1878. He had been a regular attendant at the Club functions.

The PRESIDENT reported progress in the matter of the Appeal Fund.

The PRESIDENT announced that His Royal Highness The Duke of Spoleto had been offered and had accepted Honorary Membership of the Club.

The Rt. Hon. L. S. AMERY then read a Paper entitled 'A Month in the Canadian Rockies,' which was illustrated by lantern slides, and after discussion in which Messrs. J. Norman Collie, G. A. Solly, J. E. C. Eaton, G. E. Howard, and W. P. Haskett-Smith took part, he was accorded a very hearty vote of thanks.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 4, 1930, at 8.30 P.M., Dr. Claude Wilson, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Professor G. O. Dyhrenfurth (re-election), Mr. J. E. Grosvenor, and Lt.-Col. D. B. Ross.

The PRESIDENT referred to the deaths of the following members, namely, Mr. Edward Dent, elected 1874; Mr. Adam Fox, elected 1903; The Very Rev. T. C. Fry, Dean of Lincoln, elected 1891; and Col. A. H. Tubby, elected 1894.

The PRESIDENT made a statement as to the progress of the Appeal Fund and the position with regard to the Club premises.

The HON. SECRETARY and TREASURER, Mr. Sydney Spencer, presented the Accounts for 1929, which were adopted *nem. con.*

A vote of thanks to the Auditors, Messrs. H. J. Macartney and Reginald Graham was passed with acclamation.

Mr. J. M. WORDIE then read a Paper entitled 'Climbing in Greenland,' which was illustrated by lantern slides. The President,

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Mr. G. E. Howard, Mr. R. W. Lloyd, and Dr. Charles F. Hadfield took part in the discussion which followed, and Mr. Wordie received a cordial vote of thanks.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, April 1, 1930, at 8.30 P.M., Mr. W. N. Ling, *Vice-President*, in the Chair.

Mr. Edward Arthur Fry Reeve was balloted for and elected a Member of the Club.

The CHAIRMAN referred to the deaths of two members, namely, Col. M. Locke Blake, elected in 1882, and Capt. Denis G. Murray, elected in 1914. Squadron Leader E. B. Beauman and Dr. Charles F. Hadfield both said a few words with regard to the career of the late Capt. Denis Murray.

The CHAIRMAN also made a statement with regard to the progress of the A.C. Appeal Fund.

The Rev. WALTER WESTON then read a Paper written jointly by three Japanese Members, namely, Messrs. Yuko Maki, S. Matsukata, and S. Uramatsu, entitled 'Some New Routes in the Bernese Oberland,' which was illustrated by lantern slides. Mr. E. H. F. Bradby remarked on the appreciation of the beauties of nature expressed by the authors, and the Chairman said he felt sure members would wish him to request Mr. Weston to convey to the Japanese Members above named their cordial appreciation and thanks for their most delightful Paper and the slides that had been shown. A very hearty vote of thanks was accorded to the Rev. Walter Weston for reading the Paper.

At the moment of going to press, we learn with deep regret of the death of the Rev. Canon J. E. DAWSON in his seventy-seventh year.

[*Owing to pressure on our space several articles have had to be held over.*]

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THE

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NOVEMBER 1930.

(No. 241.)

DR. PACCARD'S 'LOST NARRATIVE.'

Some Additions and Corrections.

By E. H. STEVENS.

(References to pages or notes, without further specification, apply to the article under the above title in 'A.J.' 41, 98–156. In the notes to the present paper :

Dübi = Dr. H. Dübi's *Paccard wider Balmat.*

G. M. (1) = De Saussure's *Journal d'un Voyage . . . à la Cime du Mont-Blanc,* edited by Gaillard and Montagnier.)

AS a result of further consideration and research, various points affecting Dr. Paccard's narrative and his relations with Balmat have emerged, which I venture to put before the readers of the Alpine Journal, in the hope that they may be found to cast some interesting light on the early history of Mont Blanc.

§ 1. In the Chronological Table on p. 154, I have credited Balmat with six complete ascents, viz. Nos. I, II, III, VI, VII, IX. To these must certainly be added No. V (Woodley). Mr. Montagnier's reprint [1] of the most detailed of Bourrit's many accounts of this expedition has made it clear that Jacques Balmat, 'dit le Mont-Blanc,' with two other Balmats (Dominique and Alexis) and J. M. Cachat ('le Géant,' also called by Bourrit 'Sans Peur,' because of his daring leadership

[1] *A.J.* 30, 120.

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in Bourrit's crossing of the Col du Géant), attained the summit with Woodley, while Balmat 'dit des Dames,' le grand Jorasse, and Tournier 'l'Oiseau,' with Bourrit and his son, only reached the Petits Mulets. Further, Balmat's MS.[2] mentions an ascent—which I will call VIIa, and which readers might add to my table—by five men on July 25, 1811, 'to set up the signal by order of the French Government of Bonaparte.' Nothing else seems to be known of this, though Mathews[3] says 'it is well known that the Emperor Napoleon ordered an iron cross to be erected on the summit.' Anyhow it is likely that Balmat was one of the five men. Of ascent VIII (Rodatz) we have apparently nothing but the bare entries in Paccard's diary ('note de Cachat le Géant') and in Balmat's MS., but again it is likely that Balmat was one of the guides. Thus he took part in I, II, III, V, VI, VII, IX certainly, and probably in VIIa and VIII, or nine ascents in all. As he claimed to have made two ascents on August 8, 1786, that would give the total of ten claimed for him as stated in Mr. Montagnier's note.[4]

§ 2. While referring to Balmat, I may call attention—as, I think, has not been done before—to the amount of cash he received for his first ascent. The 'gratification' obtained for him from the King of Sardinia by Bourrit was 10 pistoles = 240 francs.[5] The sum collected for him in Germany by von Gersdorf was 102⅓ thalers, or about 400 francs.[6] As to the reward offered by de Saussure, there seems to be no contemporary mention of its amount. The only evidence that Balmat actually received it is Bourrit's letter (August 13, 1787) to Miss Craven,[7] in which he tells her that de Saussure had given Balmat what he had promised. The only precise statement I have found is in a strange anonymous narrative of the first ascent published in the 'Juvenile Miscellany' (London, 1842), and reprinted by Dübi.[8] This narrative claims to be based on an interview with Balmat in his old age, and thus is constructed on the model of Dumas's tale, which it follows in general outline, but from which it differs in numerous details, frequently for the better. It includes a conversation with Pierre Balmat, who died in April 1827, and therefore cannot be later than the summer of 1826, which suits well enough the author's

[2] See note 4, and C. E. Mathews's account of the MS., *A.J.* **21**, 410.
[3] *Loc. cit.* p. 412. [4] *A.J.* **32**, 41 (*q.v.*). [5] G. M. (1), p. 42.
[6] Dübi, p. 117. [7] Dübi, p. 92. [8] Dübi, pp. 290–295.

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description of it as an 'extract from my old journal.' I agree with Dübi in thinking that it is, in part at least, authentic, and represents an earlier—and, on the whole, more credible—version of Balmat's story than that which he told a few years later (when Paccard was dead) to Dumas. In this narrative Balmat is made to say that the reward was two guineas. 'I dare say, Sir, you think two guineas a small sum, and so should we now, but in 1786 it was a great deal of money to poor crystal-hunters.'[9] Guineas probably stands for louis or napoleons, and the reward would thus be 40 francs, or say a week's pay for a guide—de Saussure paid his men 6 francs a day.[10] If the story has any foundation, the sum seems small for a prize offered, even when he was only twenty-one, by a man like de Saussure. He himself called it 'une récompense assez considérable.'[11] One might wonder whether Balmat said *dix*, and was misunderstood by his interviewer, who remarks that Balmat was one of the fastest talkers he ever heard, and who perhaps thought he said *deux*. Anyhow the three sums amounted to some 700 francs, more or a little less—a handsome total for a young Chamonix peasant in 1787.

§ 3. In my former article I emphasised the importance of Balmat's certificate of October 1786, and showed its value as a complement to the story Dr. Paccard told de Saussure. There is a remarkable fact about this certificate which seems to have escaped notice. The ALPINE JOURNAL of August 1892 contains an account[12] from the diary of the Earl of Minto of his ascent of the Breithorn in 1830. He had with him J. M. Couttet as chief guide, and eight others 'selected by Coutet [*sic*] as the *élite* of the Chamouniards.' Among these were Julian Devoussoud (Lord Minto's spelling of the name of Dr. Paccard's son-in-law) and Ambroise Paccard, the Doctor's son, of whom Lord Minto writes as follows: 'Ambroise Paccard, whom I had engaged to accompany me to observe the barometer at Zermatt during our ascent of the mountain, is the son of the celebrated Dr. Paccard of Chamounix, who divides the honour of the first ascent of Mont Blanc with old Jacques Balmat. Paccard asserts that more of the merit of this first ascent is due to his father than has usually been assigned to him; that the course by which the ascent was effected was in truth

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[9] This description of himself seems to me a mark of genuineness. See notes 93, 94.

[10] See p. 122 of former article.

[11] *Voyages*, § 1102.

[12] *A.J.* **16**, 146.

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suggested by Dr. Paccard from the observations he had made from the Brévent. However, Paccard has promised to furnish me with very full details from his father's papers.' [*Editorial note*: Among Lord Minto's papers there is a copy of the *Journal de Lausanne* for May 12, 1787, containing a certificate signed by Jacques Balmat to the effect that Dr. Paccard's previous study of the route, and his resolution during the ascent, had contributed materially to the success of the expedition.] This note appeared in August 1892. Whymper published the certificate in the first edition of his 'Guide to Chamonix' in 1896. One can hardly believe that he overlooked the note in the ALPINE JOURNAL, but it is almost equally difficult to suppose that, if he had seen it, he could have failed to mention the reference which must have put him so directly on the track leading to his dramatic discovery of the significant correspondence in the *Journal de Lausanne*.

§ 4. Lord Minto's further references to Ambroise Paccard [13] include some interesting points. 'Ambroise Paccard is an intelligent man, with an education superior to that of his neighbours at Chamounix, where he keeps a cabinet of natural history. He brought me two relics which I value much—one a letter from Saussure to his father, and the other the identical coloured paper carried up by his father on the first ascent of Mont Blanc as a standard of comparison of the colour of the sky at different elevations.' [*Editorial note*: Through the kindness of the Hon. G. Elliot, this interesting relic is now the property of the Alpine Club.[14]] . . . 'I had taken up [the Breithorn] Dr. Paccard's coloured paper with me, but I had no opportunity of comparing it with the colour of the sky, as the light fleecy sky gave it something of a grey dimness. We did catch some glimpses of dark-blue, but still very far short of the intense indigo colour of the sky, which is so remarkable in clear weather from very great heights, and which had struck us so much on the summit of the Buet.' It is pleasant to hear that Dr. Paccard, who owed so much to his own father,[15] gave his son a good education, and that the son inherited his father's interest in barometrical observations and in the natural history of his native valley.

§ 5. In Bourrit's account (referred to above, § 1) of his expedition with Woodley and Camper—which was doubtless led by Jacques Balmat—he describes how, on August 4, 1788,

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[13] *Loc. cit.* pp. 148, 230.

[14] *Cf.* note 124.

[15] *Cf.* p. 107 of former article.

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they slept in their tents near de Saussure's hut on the (upper) Grands Mulets rocks.[16] Next morning they took 5 hours to reach 'le Camp' (*sc.* the Grand Plateau), where they set up their tents and halted ¾ hour for a meal 'at 1455 toises above Chamouni.' This no doubt means that Bourrit thought, or *was told by Balmat*, that they were at the spot where de Saussure camped and slept on August 2, 1786, at a height which, he states in his 'Relation Abrégée'[17] (published in 1787, and of course well known to Bourrit), he measured as 1455 toises above Chamonix and 1995 toises above the sea. This may help to account for Balmat's subsequent use of this figure (in 1830 or thereabouts) as the alleged height of his bivouac on June 8, 1786, though at the time he had told Bourrit he slept at a spot 'higher than the Dôme du Goûter'![18]

After leaving the Grand Plateau, Bourrit's party began to straggle, Woodley, with Balmat and others, going on at a pace which, on the steep slopes and in the cold and violent wind that had risen, Bourrit and his son could not maintain. This separation annoyed Bourrit greatly, and may perhaps have started or contributed to the coolness that set in between himself and Balmat (see p. 143 of former article).

After sleeping a second night at the (upper) Grands Mulets, the party 'descended along the glacier squeezed in between the Grands Mulets and the bases [*sic*] of the Aiguille du Midi. This glacier is the most astonishing that I know [deep defiles, walls 400 ft. high, gloom, sunshine, precipices, horrors, dangers, pyramids, labyrinths, azure piles, black crevasses, huge towers threatening destruction, glacier splitting beneath their feet !]. It is the most beautiful thing I have ever seen.' This seems to have been the first passage of the glacier towards the Pierre Pointue, which had been partly reconnoitred by Dr. Paccard,[19] and afterwards became the regular approach to the Grands Mulets. It was again followed on the descent, fourteen years later, by the next party, viz. that of Dorthesen and Forneret (also led by Jacques Balmat), in spite of the consequent necessity of abandoning provisions they had cached on the Montagne de

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[16] This, as Mr. Montagnier points out, is probably the first occurrence of the name Grands Mulets in Alpine literature. Paccard himself does not use it till 1802, in his lengthy account of the ascent (VI) by Dorthesen and Forneret.

[17] Reprinted in his *Voyages*, Vol. IV. *Cf.* Whymper, *Guide to Chamonix*, p. 31.

[18] See note 4, p. 99.

[19] *A.J.* **41**, 139.

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la Côte.[20] It would be interesting to know whether the opening sentence of the quotation really means that the party descended the steep slopes at the back (E.) of the Grands Mulets chain on to the wildly crevassed upper part of the Glacier des Bossons. If so, it would have been a remarkable piece of work. Bourrit's language certainly rises to a higher pitch of excitement than he attains elsewhere (though he had crossed the Col du Géant the year before), and even for him seems excessive for the ordinary route through the 'Jonction.'

§ 6. In Paccard's account of his reconnaissance by the Tacul basin[21] some points deserve further discussion. First as to the position of the 'cahute' (hut) in which he slept, '*on the moraine of the Tacul, below the* [*Aiguille*] *Noire, at a place where two glacier valleys meet.*' If, as would be otherwise very probable, this place was at or near the Lac du Tacul, it is rather surprising that Paccard does not mention the well-known Lac, but defines the spot as 'below the Noire,' which I believe is not visible from the Lac, and the foot of which is a long way (about 1000 ft.) above it. De Saussure,[22] relating his ascent in 1788 to the Col du Géant, describes the place with his customary precision: 'We slept in our tents at the Tacul; this is the name of a grassy basin, on the shore of a little lake, enclosed between the end of the Glacier des Bois and the foot of a rock which bears the name of Montagne du Tacul.' He does not mention the Noire, which was probably much less well known than the Tacul. On the first passage of the Col du Géant, Cachat and Tournier bivouacked (June 27, 1787) near 'l'Echelier' (les Echelets), and next morning, by a forced march of 4 hours, got 'under the foot of the *so-called Aiguille Noire.*'[23] As Paccard's barometric measurement (allowing for the fact that he got the Montanvert 130 ft. too high) made his sleeping-place some 300–400 ft. higher than the Tacul, it is perhaps likely that the 'cahute' was on the moraine near the junction of the Glacier des Périades with the Glacier du Géant. This would also suit better the wording of their next morning's work, which is literally 'we went on *a few steps* (quelques pas), nearly as far as the Noire.' This, however, must not be pressed too hard, as they 'crossed a large number of covered crevasses.' I do not know whether there are, or were, any

[20] *A.J.* **30**, 128, 129.
[21] § 4 of former article, pp. 110–114.
[22] *Voyages*, § 2027.
[23] *A.J.* **34**, 367.

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huts at the place suggested—there certainly were at the Tacul.

§ 7. In the former paper I omitted from this section of Paccard's diary a passage which I did not then fully understand, but which is now clear to me. It follows on the mention of his sleeping at the 'cahute': '*Above the glacier which crowns the region of our hut one sees Mont Blanc showing its rounded, snowy top as* it does when seen *from Chamonix; behind it there is an aiguille almost bare* of snow, *at least towards the Val d'Aosta, which M. de Saussure probably took for Mont Blanc. It is said that seen from les Courtes* [*sc.* the Glacier de Talèfre] *this summit appears higher.*' Now, in the account of his ascent of Mont Blanc, de Saussure writes as follows[24]: 'The summit ridge falls steeply to the north, but to the south on the contrary the slope is quite gentle, 15° or 20° at most, and lower down forms a cradle, the slope rising in the opposite direction, *i.e.* towards the south, where it forms, above the Allée Blanche, a lofty point, under which is a snowy gable ['avant-toit,' literally 'eaves'], and under this gable are the rocks which I saw from the Cramont and took for the summit, because they hid from me the actual snow summit. This projection to the south is the reason why, when one looks at the top of Mont Blanc in profile from the east or from the west (*e.g.* from the St. Bernard or from Lyon), one sees below the summit a sort of hook or upturned nose, standing out towards the south.' This is all most precisely stated, both by de Saussure and by Paccard, whose 'aiguille almost bare of snow, at least towards the Val d'Aosta,' is therefore the Mont Blanc de Courmayeur, which is also 'the mountain behind Mont Blanc' towards which, he says, the widest of the 'vallons' from the Glacier du Tacul runs.[25] As to the relative heights, Mont Blanc de Courmayeur looks from some directions nearly as high as Mont Blanc—it is only 200 ft. lower—and if it were thought to be further off might well be supposed to be higher. In any case it is only an 'on dit.' See further § 13 below, with illustration.

There remains an interesting question. The passage which explains Paccard's reference to de Saussure's mistake about the summit is in Vol. IV of the 'Voyages,' which was not published till 1796. Was the sentence in Paccard's diary not written till after 1796, or had Paccard heard about de Saussure's observations on the Cramont (which were made in 1774 and

[24] *Voyages*, IV, § 1992.

[25] § 8 below.

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1778) from de Saussure himself—probably at their first interview (August 1784), a few weeks after this expedition of Paccard's (p. 114)? The latter alternative seems much more likely, and it is pleasant to think of such an exchange of experiences between the older and more travelled Professor and the eager young Doctor.

There is, however, one other phrase in this section of his diary which might be thought to suggest the probability of later revision or addition, viz. Paccard's reference to the Col du Géant, '*the route* [to or from Courmayeur] *which is visible beyond the* [*Aiguille*] *Noire, where the innkeeper Abondance of Courmayeur is said to have come in pursuit of a bouquetin, and to have looked down the whole valley of Bayer* [*sc.* the Mer de Glace].'[26] The first recorded crossing of the Col was in June 1787, whereas the passage just quoted belongs to Paccard's diary for 1784. But Mr. Montagnier's exhaustive study of the subject ('A.J.' **33**, 323, and especially **34**, 359) conclusively supports the suggestion in my note 56, that Dr. Paccard knew of the reputed pass from his father. The following interesting passage from Bourrit[27] throws light on Paccard's statement: 'Behind this valley [the Mer de Glace] is situated the district of Cormayeur in the Val d'Aosta, which is only at the most eight leagues from Chamouni. Now the tradition among the inhabitants of the two countries is to the effect that formerly they had intercourse with each other by passing through the midst of the ice valley. The greffier [=Recorder] of Chamouni, whom I have consulted, and who has the old documents in his hands, has confirmed this. . . . To this testimony I will add that of Mr. "Patience" of the big house [? inn] in Cormayeur, who, having ascended to hunt bouquetin, discovered in the direction of Mont Mallet [*sc.* the Aiguille du Géant] the environs of our glacier through a gorge which he reckons to have been the former passage.' The 'greffier' or Recorder of Chamonix is Dr. Paccard's father, the secretary and Royal Notary of the valley. 'Patience' was the nickname of a chamois-hunter of Courmayeur, named J. L. Jordanay, who had acted as guide to de Saussure and to Bourrit. His adventure must be the same as that quoted by Paccard, but whether he had another nickname—'Abondance'—and was an innkeeper as well as a chamois-

[26] P. 112 of former article.

[27] *Nouvelle Description des Glacières et Glaciers de Savoie* (1785), tome III, p. 72.

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hunter, or whether the variety of name and occupation attributed to him is simply the result of a confusion or blunder, I do not know.

§ 8. As a result of further consideration, and a most helpful discussion with my friend M. Morin, A.C., G.H.M., I can now give a much more precise explanation of the brief but pregnant passage in which Paccard states his conclusions as to the possibility of finding a way up Mont Blanc from the upper basin of the Mer de Glace. The passage [28] —with slight improvements in the translation of the first and last sentences—runs as follows: '*This route* [*sc.* from the Tacul upwards] *then brings one to a glacier, above which is a snow plain, on which abut several valleys* ('vallons') *that go in the direction of Courmayeur. The widest valley runs straight to the foot of the mountain behind Mont Blanc, and appears to bend to the right towards Mont Blanc behind a granite aiguille which hides it* [*sc.* the widest valley]. *This valley lies so deep below the mountain slopes (which themselves rise to what seems an enormous height above it) as to suggest that it could only lead to Mont Blanc by a very steep couloir. To attempt this route it would seem that the easiest way would be by the valley in the background, or* else *near Courmayeur by the passage which is visible beyond the* [*Aiguille*] *Noire. . . .*' Now, (*a*) that the '*snow plain*' is, as stated in my note 51, the wide, gently sloping upper basin of the Glacier du Tacul, is confirmed by a note in the *Journal de Lausanne* of July 8, 1787,[29] on the first two crossings of the Col du Géant: 'The Tacul presents at its highest point a snow plain, admirable for making observations.' (*b*) The '*valleys going in the direction of Courmayeur*,' we now suggest, are the well-marked snow slopes leading up to gaps in the highest (southern) rim of the Tacul basin, several of which afford passes to the Brenva valley and therefore to Courmayeur. There are five of these, viz. (1) to the left of the Grand Flambeau, (2) between this and the Aiguille de Tour, (3) between the latter and the Aiguille d'Entrèves, (4) between this and the Tour Ronde, (5) to the right of the latter. The widest of these is No. **5**. It runs at first straight towards Mont Blanc de Courmayeur—which, as shown in the preceding section, is undoubtedly what Paccard means by '*the mountain behind Mont Blanc*'—and then appears to turn to the right towards Mont Blanc itself, behind

[28] *A.J.* **41**, 112.

[29] Quoted by Mr. Montagnier in *A.J.* **34**, 366.

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the striking little pinnacle, now called the Petit Capucin, which stands at the base of the great ridge (bearing higher up the Capucin and the Aiguilles du Diable) of Mont Blanc du Tacul. The '*very steep couloir*' which Paccard rightly guesses could alone lead hence to Mont Blanc is that which runs up from this S.W. bay of the Glacier du Tacul to the crest between Mont Blanc du Tacul and Mont Maudit. It was first climbed by F. A. Bowlby and J. Stafford Anderson, on August 29, 1888.[30] Donkin's photograph at p. 114 of my previous article shows all this (except the 'steep couloir') perfectly. Thus '*the granite aiguille which hides*' the glacier bay leading towards the summit of Mont Blanc is the Petit Capucin, and the suggested route rises to that great N.E. ridge of Mont Blanc, running down over Mont Maudit and Mont Blanc du Tacul, which in recent years has attracted so many climbers.[31] (*c*) As a means of access to this route Paccard suggests either '*the valley in the background*' ('la vallée du fond')—which I take to be the Brenva valley—or '*the passage visible beyond the Aiguille Noire,*' which, as explained in § 7 above, is the Col du Géant. We now know that these are possible routes, though in actual practice the passes near the Tour Ronde are more useful as affording access from the outskirts of the Tacul basin (*e.g.* from the Torino hut) to the upper Brenva valley than in the reverse direction. Paccard was doubtless led to suggest these routes because he had found—as many others have since found—that '*the approach to Mont Blanc on this side* [*sc.* by the séracs du Géant] *is difficult,*' and he might well imagine that one of the other possibilities he recognizes might prove to be easier, as indeed the Col du Géant is.

It would be difficult, I think, to find in Alpine literature another passage bearing on a great mountaineering problem which contains in such brief compass so much accurate observation, sound judgment, and fertile suggestion.

§ 9. One of the most puzzling passages in this section of Paccard's diary is his reference to the 'aiguille percée.' His words are as follows: '*Behind the aiguille percée we counted three granite aiguilles which are not seen from Chamonix; all the others are also thus doubled* [or 'understudied'] *several times; a vast number of these granite aiguilles are visible, and*

[30] *A.J.* **14**, 151.

[31] The exegesis now offered of Paccard's text involves, of course, the abandonment of the direct reference to the Brenva valley suggested in notes 54, 55.

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this is the best place in which to study the rocks of this kind.' [32] Originally I was so impressed by the way in which the Glacier du Tacul is shut in by the three striking little peaks of the Grand Flambeau, the Aiguille de Toule and the Aiguille d'Entrèves, that I was impelled [33] to take these for Paccard's 'three granite aiguilles invisible from Chamonix,' and consequently regarded the Tour Ronde as his 'aiguille percée' *behind* which he counted his three—*behind* meaning, as in § 7 above, 'on the side remote from Chamonix.' But although the peaks in question stand up so boldly when seen from a lofty and distant viewpoint (as in Donkin's photograph at p. 114), it must be admitted that they would be much less conspicuous, even if visible at all, from the slopes of the Tacul basin. Moreover, they are a long way from the rock peaks of the Chamonix Aiguilles proper, to which Paccard seems to regard them as belonging, and being largely snow-covered are unlike them in appearance.

Mr. Sydney Spencer suggested to me that the 'aiguille percée' might be the Grépon, being so called from the hole—Burgener's famous 'Kanones Loch'—by which the passage from the Nantillons to the Mer de Glace face is effected, and which 'is well seen from the Mer de Glace.' [34] Mr. Spencer remembers clearly noticing this hole from the neighbourhood of the Lac du Tacul, and seeing the sky through it. This attractive idea suffers from two drawbacks. It affords no easy explanation of the 'three granite aiguilles behind it which are invisible from Chamonix,' since any peaks likely to be described as 'behind' the Grépon are all visible from Chamonix except the Requin. Moreover, the mountain was already well known (under the name of Charmoz, which it bore till soon after Mummery's ascent in 1881), even in 1742, when Peter Martel describes and names it,[35] of course from local information. It must have been quite familiar to Paccard and his experienced guide, Pierre Balmat, and they would certainly have called it by its name rather than have spoken of it vaguely as the 'perforated aiguille.' I may add that, as M. Couttet tells

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[32] Here again the translation is made more precise than in my original article (*A.J.* **41**, 112). The fact is that the more one studies Paccard's text, the more one realises that it deserves the most exact interpretation.

[33] See note 59, *A.J.* **41**, 112.

[34] *A.J.* **10**, 357.

[35] See Mathews, *Annals of Mont Blanc*, p. 351; Gribble, *Early Mountaineers*, p. 114.

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me, nothing is known at Chamonix of such a name as 'aiguille percée.'

I have to thank M. Morin—who has an unsurpassed knowledge of the whole region—for another suggestion which I think finally clears up the question. On the N.E. ridge of the Requin is a very remarkable gendarme, now to be known as the Capucin du Requin, the top of which is shaped like a flower-pot, overhanging on all sides. Below this top the gendarme is pierced by a conspicuous hole, which is clearly visible from the moraine above the Tacul, and was actually traversed on the first ascent.[36] This hole is much nearer to the Tacul, and more likely to catch the eye of a climber passing that way, than the lofty and distant hole on the wall of the Grépon. Again, the description of 'perforated aiguille' is much more likely to be applied to an otherwise unknown rock-needle than to an already well-known peak like the Grépon. On this explanation the '*three granite aiguilles behind the perforated aiguille*' would be the Requin and the two lofty and conspicuous points on the ridge running from it to the Aiguille du Plan, viz. the Grand Gendarme d'Envers du Plan and the Pain de Sucre. These three are practically the *only* prominent peaks of the whole group which are invisible from Chamonix or its neighbourhood, and they lie exactly 'behind the Capucin du Requin.'[37] The only objection I can think of is that in this case 'behind' (*derrière*) would be used in its ordinary sense—'behind' from the observer's point of view—and not, as elsewhere, meaning 'on the side remote from Chamonix.' The inconsistency is trifling, and the meaning perfectly natural as applied to objects relatively near at hand. Finally note the aptness of Paccard's observation that the summits of this remarkable group tend to duplicate themselves, the various ridges bearing pairs or triplets of peaks of similar form and character but varying altitude. The great ridge of the Plan is only the most striking instance of this general principle. In Paccard's words, '*all the other aiguilles have also in the same way their duplicates*,' or, we may say, 'their understudies.' Much of the activity of modern

[36] By Mlle. Brunaud with Alfred Couttet—who spent many hours of three days in exhausting efforts to throw a rope over the top—on July 17, 1928. See *La Montagne*, 1930, p. 45, where the hole is called 'a lean-to ('un auvent') formed by a huge block of rock.'

[37] These points can be identified on Donkin's photograph at p. 114.

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climbers in this region—particularly of the members of the 'Groupe de Haute Montagne' of the C.A.F.—has been devoted to climbing and naming these subordinate peaks.

§ 10. The remaining point for discussion is the interpretation of Paccard's phrase, '*nous avons couché derrière l'Aiguille du Midi.*' This follows his reference to the 'aiguille percée' and the 'best place in which to study these granite aiguilles,' and is immediately followed by the words 'where we saw nine chamois.' I have suggested [38] that on the descent from the Tacul basin near the Aiguille Noire, he crossed over to the left bank of the glacier—partly to look more closely at the great group of Aiguilles, partly, perhaps, to find an easier descent—and *rested* at the Rognon, or more likely the Petit Rognon, which he might naturally describe as 'at the back of the Aiguille du Midi,' *i.e.*, as already explained in other cases, on the side of the Aiguille du Midi remote from his home at Chamonix. There are two objections. In the first place, he does not actually mention crossing the glacier nor define his resting-place more closely. One must remember, however, that his journals are really only memoranda, which would doubtless have been expanded and rearranged if ever published, and that the rock islands in question were only named much later. Secondly, one would naturally take 'nous avons couché' to mean 'we *slept*' (passed the night). The substantial reasons I have urged [38] against this, and for the meaning 'we lay down or *rested*,' are, I venture to think, very strong. But the linguistic question remains, viz. whether 'nous avons couché' could normally mean to French readers anything but 'we slept,' and this is a question only to be answered conclusively by those to whom French is their native tongue. Dr. Dübi says 'no'; so does M. Morin, and so do two other French friends of mine, MM. Desclos and Janelle, both of whom are distinguished French and English scholars. On the other hand, the dictionaries (*e.g.* Littré, Gasc) admit 'to rest' as one meaning of coucher. Moreover, Dr. Paccard, though an educated man, was a Savoyard of the eighteenth century, and employs some words in a sense in which no Frenchman would generally use them. The most striking case is *rester* (with auxiliary *avoir*) meaning to take or spend a certain time, *e.g.* 'deux guides ont resté près d'une heure depuis votre station pour atteindre le sommet'; 'je restai une heure dans cette montée le long du glacier'; 'nous

[38] In note 61, *A.J.* **41**, 113.

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avons resté trois heures passées pour y monter'; 'Voyage au Mont Blanc. Resté deux jours'; 'ils ont resté une heure et un quart pour faire la tournée.' (He also uses *rester*, with *être*, in the ordinary meaning to stay or remain.) As M. Desclos writes to me, *ab uno disce omnes*, and in view of this striking example, I think—and MM. Desclos, Janelle, and Morin agree—that we need not be deterred from accepting the desired meaning of 'nous avons couché' on the ground that it does not conform to the common French usage. With the meaning 'we rested,' the whole passage falls easily and naturally into place—without it, all is confusion.

§ 11. In the last part of this section of Paccard's diary (p. 114), I think I may have slightly misrepresented the original in the effort to compress it and arrange it more clearly. The following is a more complete and literal translation. '*We saw them* [the herd of chamois] *above and beyond* the Pierre à *Béranger, where they climbed a steep snow slope in order to cross the snow and go to the valley of* the Glacier de *Talèfre. We found some crystals beneath this glacier. We went to gather some dwarf Achillea on the moraine below* the Pierre à *Béranger. Then we crossed this glacier by the Col de* [gap in the MS.] *to a little plain below the Aiguille where there are several huts* . . . [At the end of the section] *we found, below the Glacier de Talèfre, where we dined,* some rock specimens, [several named].' It will be observed that Paccard does not mention the Jardin—which by this time was pretty well known—and refers to an unnamed col. It is therefore perhaps more likely that he did not (as I had suggested) go up to the Pierre à Béranger and the Jardin—which would have been rather a work of supererogation after the heavy labours of the morning—but, after lunching and finding some crystals and rock specimens near the base of the moraine, went a little way up it to get the Achillea, then returned and crossed the glacier and the moraines to the little plain below the Aiguille du Moine, near where the present route to the Couvercle starts up. M. Morin tells me that there are one or two big mounds on the moraine here, and that passing between or just above them would be like crossing a little col, which, however, would not deserve or have received a name.

The discussion of these points (§§ 6–11) has been rather minute and lengthy, but I hope not without interest, especially as revealing the extraordinary accuracy with which, in spite of equally remarkable brevity, Dr. Paccard made and recorded his observations.

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§ 12. I was able to pay a brief visit to Chamonix last year, and go over some of the ground referred to in these narratives. I ascended the Montagne de la Côte, and can fully endorse Mathews's recommendation of it[39] as a most charming and repaying walk. There is a good path from les Bossons, and it was interesting to compare this with de Saussure's notes of his ascents in 1786[40] and 1787.[41] (Everything that follows in this section between inverted commas is quoted from de Saussure.) As he says, one leaves the high road to Geneva and takes the path that leads to the Glacier des Bossons, presently turning to the right to the houses of le Mont. De Saussure describes the further ascent—on which he was able to ride for half an hour—as leading by the torrent from the Glacier de Taconnaz up a wild débris valley, then rising above the glacier to a spring, returning for a few minutes to the moraine, and finally leaving it to ascend the Montagne de la Côte to the left. The present mule-path evidently avoids these difficulties, not going so near the Glacier de Taconnaz, but following the same general direction, and at one corner affording a striking view of the dazzling cataract of the Glacier de Taconnaz, crowned by the snows of the Aiguille and Dôme du Goûter. After turning decisively to the left, the path crosses to the other side of the Montagne de la Côte, rounds a huge hollow falling steeply to the Glacier des Bossons, and reaches a steep corner above the second plateau and crossing place of the Glacier des Bossons, where, on a little made terrace, there is now a refreshment house called the Chalet des Pyramides. The site and the distances suggest that here or hereabouts was de Saussure's 'mauvais pas.' In 1786, he says in his diary 'a ladder had been left here by the guides. As Bourrit[42] came here without a ladder, I should have feared that the guides would take it amiss and form a bad idea of my strength and courage if I had seemed to need help at this spot.' On his next year's expedition he writes[43]: 'Half an hour after leaving the glacier [de Taconnaz], one arrives at the foot of a lofty, almost perpendicular rock, which blocks a deep and narrow couloir. One can only get out of the

[39] Mathews, *Annals of Mont Blanc*, p. 31.

[40] G. M. (1), pp. 43, 44 (hitherto unpublished extract from de Saussure's diary).

[41] G. M. (1), pp. 12–14 (diary), and *Voyages*, §§ 1966–1971.

[42] With Paccard and three guides in September 1783. See § 3 of the previous article (*A.J.* **41**, 109).

[43] *Voyages*, § 1968.

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couloir by climbing this rock; the passage is called the *Mapas*, or Mauvais Pas. A ladder had been placed there with the idea that I should need it, but as I feared to give my guides a bad opinion of me if I used it, I passed by the side of the ladder without touching it.' Very human touches, especially the reference to Bourrit, who on a previous occasion had made impertinent comparisons between de Saussure's climbing powers and his own.[44]

Above this one still 'passes by narrow ledges above lofty slopes which might be a little alarming for unaccustomed heads,' and reaches 'a sharp [little horizontal] arête, with a precipice to the right above the glacier [de Taconnaz], and steep grass slopes on the left.' Above this 'steep slopes of 50°, where, however, nailed boots go perfectly well,' bring one to a grotto[45] or little cave, where de Saussure slept on August 20, 1786, being driven down next morning by 'horrible rain.' A col not far above this gives access to a peak (one of many summits on the ridge) which affords a view that much impressed de Saussure. The slanting beds of the great ridge on the other side of the Glacier de Taconnaz attracted his attention, as they had Paccard's. The latter notes[46] that these beds are inclined away from Mont Blanc. 'But,' says de Saussure, 'the strangest view is that to the N.W., along the ridge itself. Big, sharp-cornered rocks, piled up in bold heaps, crown the ridge, looking strange and wild; the fair and smiling meadows of les Houches seem to be divided by these barren rocks, forming a striking contrast with them. One of these blocks, which has a jutting corner overhanging the precipice, is called the "Bec à l'Oiseau." There is a tale that a shepherd climbed this for a wager and sat down on top, but on standing up slipped, and was killed on the spot. . . . I amused myself with watching, at a great depth below my feet, some tourists painfully crossing the lower plateau of the Glacier des Bossons, leaning on their guides, and probably getting ready to tell on their return a swelling story of their courage and of the dangers they had run.'

De Saussure's grotto was probably the place that Paccard calls 'la Tournelle,' where he and Bourrit slept in September 1783. Paccard's barometrical measurement makes it about

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[44] See note 90 (*A.J.* **41**, 122).

[45] The present path, which was restored by the C.A.F. in 1910, passes, I think, below this grotto.

[46] Dübi, p. 259.

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Ruskin's CREST OF LA CÔTE
(from 'Modern Painters,' Vol. IV.).

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Photo, J. Hawksley.

PACCARD'S GÎTE on the MONTAGNE DE LA CÔTE.

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550 toises above Chamonix, while de Saussure found the col (which is a little higher) to be about 600. Paccard calls his sleeping-place a 'cabane,' as de Saussure also does several times. From the col de Saussure, in 1787, went up to the top of the Montagne de la Côte in 83 minutes (about the same as I took, going quietly, but having, no doubt, a much better path than existed 140 years ago), while Paccard and Bourrit—always a slow goer, especially in the morning—took 2 hours from the 'cabane.' M. Couttet, who has been kind enough to make inquiries for me, reports that the name of la Tournelle is now completely unknown, but the little col is called Col de Leschaux.

The path continues to ascend obliquely across the slopes between the Glacier des Bossons and the summit of the ridge. 'We passed below a deep cavern where Jacques Balmat had hidden a ladder and a fir pole for our use on the glacier. He found the ladder, but to my great regret someone had stolen the pole. It is strange that there should be robbers there—one can't call them *highway* robbers.' Then the path turns to the right, below (and to the south of) the highest and boldest of the peaks on the ridge, which de Saussure calls the Aiguille de la Tour. This is clearly the point marked Mont Corbeau on the French Government map (2332 m.). M. Couttet tells me that some old guides, and the inhabitants of the village of le Mont, still call this la Tour, while other guides give it the map name, and some think 'Bec à l'Oiseau' is the same peak—but this, I think, is certainly wrong. Most of these localities can be identified on Ruskin's beautiful drawing called 'The Crest of la Côte.'[47] The highest peak on the left is Mont Corbeau, the obvious col below it to the right is the Col de Leschaux, and the second peaklet above this col on the right is the Bec à l'Oiseau. The Chalet des Pyramides would come about $\frac{1}{8}$ in. to the right of the mid-point of the plate, and I believe the 'sharp arête' is in the second little gap above this to the left. In the background are boldly indicated the sloping beds on the Taconnaz ridge which so struck both Paccard and de Saussure. The summit of the Montagne de la Côte is just beyond the top left-hand corner of the plate.

An ascent of about 1000 ft. more over roughish, stony slopes, with some snow patches, brings one to the top of the

[47] *Modern Painters* (library edition), vol. iv, p. 260. I have to thank Messrs. George Allen & Unwin for their kind permission to reproduce this illustration and for the loan of the block.

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Montagne de la Côte (about 8500 ft.). Some 200 ft. below the top 'is a heap of granite blocks, drifted thither by the glacier. We hoped to find a shelter among these, where Dr. Paccard and Jacques Balmat had slept on the night before their ascent.' Whymper says that one of these blocks is 10 m. high by 9 m. by 14 m. The present path passes between two of the largest of these blocks, which lean together, forming a capital shelter. The C.A.F. have put up a tablet on the right-hand wall, stating that this was Jacques Balmat's *gîte*, August 7, 1786. Not a word about Dr. Paccard! One might almost think there was a conspiracy among French mountaineers to exalt Balmat at Paccard's expense.

Whymper speaks of a cairn on top, and the remains of a regularly built hut. Neither of these was noticeable when I was there. But the view is very striking, particularly of the Dôme and Aiguille du Goûter on the right, of the Aiguille du Midi on the left, and of Paccard's route in the middle. The view of the latter, looking up to the Grands Mulets and Mont Maudit, gives a vivid idea of the difficulties in the early part of their ascent which cost Paccard and Balmat so much time and trouble.

§ 13. After this trip I went up Mont Blanc by the ordinary route. In the upper part of the ascent to the Grands Mulets there were six fixed ladders crossing troublesome crevasses. It would be interesting to know how much time these saved—I should think at least an hour or two. I was fortunate in having very fine weather, and in finding no other party at the Grands Mulets or on the mountain next day. A well-trodden track to the Dôme du Goûter was conspicuous, exactly as marked DDD on the illustration appended to my former article.[48] In the evening a short-lived tempest blew up, which gave us gorgeous cloud-scapes, and, as the tempest passed over, a superb stormy sunset. On leaving the Grands Mulets (at 1.45 A.M.) we soon came into the line of Paccard's route as marked on the illustration, and followed it to a point a little beyond A. As we mounted to the Petit Plateau, passing close under the rocks to our right near A, I was struck with the accuracy of Paccard's description of the point reached by the guides in 1783, '*where the snow arches over the first rocks at the foot of the . . . Dôme du Goûter.*'[49] The Petit Plateau was nearly covered with avalanche débris, and of course we swung away to the left, outside P on the illustration. At the

[48] *A.J.* **41**, 155.

[49] *A.J.* **41**, 108.

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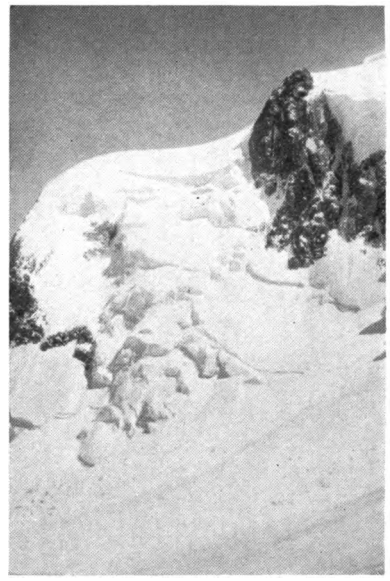
Photos, E. Stevens.

Jonction, Grands Mulets, Mt. Maudit from top of Mt. de la Côte.



The Lower Ancien Passage.

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Photo. E. Stevens.

Mt. BLANC de COURMAYEUR
from the Summit of Mt. BLANC.

Photo. Abraham.

The Grand Plateau and the Lower and
Upper Anciens Passages.

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rather troublesome corner above H, where one crosses the great crevasse to get on to the Grand Plateau and begin to turn up right-handed to the Col du Dôme, my guide—a very able and experienced Valais man—whispered, 'Don't speak,' and assured me afterwards that there was danger of a falling sérac. It is rather surprising that this old idea still persists. At the Refuge Vallot, where we made a halt for a second breakfast, we found workmen engaged in repairing the hut. It is being covered with thin sheets of brass to make it safer and more weather-tight. The workmen told us they were not responsible for cleaning out the hut. It is to be hoped that it will cease to deserve the appellation of 'the highest pig-sty in Europe.' The meteorograph from the Janssen Observatory on the summit, which was brought down when the observatory was taken to pieces and removed to the Vallot Observatory, is lying derelict on the snow between the Refuge Vallot and the foot of the Bosses du Dromadaire.

The snow was in good condition, and we reached the top in 8¼ hours from the Grands Mulets.[50] There was a cold wind, but I took some photographs, and paid special attention to the points arising from the observations of Paccard (§ 14 of my original article) and de Saussure. Paccard's description of the gentle slope to the south, and the 'rocks which rise in a sharp crest' beyond it—*i.e.* the Mont Blanc de Courmayeur—is quite precise, while de Saussure's fuller account of the same features (quoted in § 7 above) is a model of complete and accurate observation, as may be verified on the photograph herewith, and on M. Bregeault's profile view in his 'Chaîne du Mont-Blanc.' Again, Paccard's comparison of the Mont Blanc group to a '7' separating Savoy from the Aosta valley and Piedmont is, as one looks from the top, almost startlingly apt. But his other comparison, viz. of the course of the Rhône to a C embracing Savoy on the N.W., though

[50] This, of course, is slow time, but I was interested to find that in spite of my sixty-five years, and lack of practice—I had done no big climbs for seven years, and only three training walks before the ascent—I felt no excessive fatigue, and no trace of 'mal de montagne,' save a touch of headache below the Col du Dôme. On the top, too, I felt no distress, nor any difficulty in manipulating the camera. We had brilliant sunshine all day, but, in spite of using no cream or other protection for the face (except to wear goggles for a few hours), I experienced no ill effects of sunburn or snow-blindness. These trivial details are only mentioned by way of comparison with the experiences of the early climbers.

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plain on the map, is not so easy to verify visually—at least I could not trace the course of the river, nor is it obvious on M. Helbronner's great panorama of the view from the top. One sees the Lake of Geneva as a long, narrow strip, curving like the back of a C among the lower ranges which here and there hide it. I suppose that a knowledge of how the Rhône actually runs, both above the lake (to Martigny) and below it (to the great bend at St. Genix), would be enough to complete the suggested comparison. Also it occurred to me that near sunset, as Paccard saw the view, the slanting light from the west might show up parts of the great river or its valley which are indistinguishable earlier in the day.

On the way down we made a long halt in the warm sunshine at the Refuge Vallot for lunch and photography, and there, and on the descent from the Col du Dôme, we had every opportunity to study '*the snows that cover the points of the central chain which runs towards the Aiguille du Midi*'[51]—*i.e.* as explained in note 82,[51] the upper and lower Anciens Passages and the corridor.[52] Their relation to the great mountain is best shown on Abraham's photograph herewith, which was taken from a point rather further north, but the other view gives a better idea of the lower Ancien Passage itself, which has a sufficiently formidable appearance to justify Marie Couttet's disbelief in its practicability as a way up Mont Blanc, though of course the details of the slope might vary from one season to another.[53] The view was taken from a little way above the Grand Plateau. From the same spot one could not but agree with Couttet's other verdict, as to the beauty of the Grand Plateau. As we gazed on it in the brilliant sunshine, its dazzling expanse, shut in by the stupendous snowy slopes around it, gave an almost overwhelming sense of serene and lonely grandeur, and I felt with Dr. Paccard that we had indeed come to 'another, heavenly world.'[54]

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[51] *A.J.* **41,** 117, 118.

[52] This interpretation of Paccard's phrase 'les *croûtes* de neige des pointes,' etc., is confirmed by another passage in his diary. Describing the ascent of Dorthesen and Forneret, he says 'ils s'élevoient sur une pente rapide [*sc.* the upper 'ancien passage'] le long du rocher [*sc.* the Rochers Rouges] qui est *incrusté* par les neiges du Mont-Blanc' (*A.J.* **25,** 617).

[53] *Cf.* note 113 (end).

[54] *A.J.* **41,** 137.

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The Fight for Kangchenjunga, 1929.

By PAUL BAUER.

(*Translated.*)

PICKED mountaineers have assaulted Himalayan peaks for a generation. The last great fight for Everest enthralled the world. Since its tragic ending no one has striven for the greater heights; it seemed as if mankind had found itself too weak to struggle upwards in such lofty zones. But this belief could not last; a time had to come, another generation had to continue the struggle.

We, young German mountaineers, were left to ourselves; the necessary effort had to depend on our own initiative. We had behind us the experience of those latter years of the World-War, of hundreds of trying mountain expeditions, some bordering on the limits of possibility, and, greatest of all, we were bound by an infrangible sense of comradeship.

In January 1929 we resolved to pit ourselves against the giants of the Himalaya.

All my companions were experienced mountaineers:[1] Eugen Allwein of Munich—the conqueror of Mt. Kaufmann—Peter Aufschnaiter of Kitzbühel, Ernst Beigel of Munich, Julius Brenner of Kaufbeuren, Wilhelm Fendt of Munich, Karl von Kraus of Munich, Joachim Leupold of Arnstadt, and Alexander Thoenes of Speyer. All belonged to the most enterprising class of Munich mountaineers and were members of the A.A.V.M., the fairy godmother of the expedition. The Central Committee of the D. & Œ.A.V. also assisted us.

Of the preparations for the expedition, entailing a vast amount of work, I will say nothing.

On the voyage through the Mediterranean towards India, we were uncertain whether our goal was Sikkim or the Central Himalaya; we did not know whether we could obtain permission to enter Sikkim or not. A month later, in Darjeeling, our destination was settled, and we set out bound for the Kangchenjunga massif, without knowing, however, for certain whether we should be able to set foot on the mountain itself.

[1] Dr. Bauer was leader of the 1928 Bavarian expedition to the Caucasus—*A.J.* **41**, 166-9.

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Our first duty was to ascertain whence the peak could be approached and how it could be tackled. The Nepal approach was out of the question, since permission to enter that State had not then reached us. Acting on information obtained in Darjeeling, I settled on the Gangtok-Lachen-Zemu Glacier route, choosing this plan out of the many proposed.

Following requests conveyed by letter, the Darjeeling secretary of the Himalayan Club, Lt.-Colonel Tobin, and Mr. Shebbeare, transport officer of the [1924] Everest expedition, had for weeks been collecting porters for us. Everyone, especially the Chief of Police, Mr. Landenla, assisted us to the utmost of their ability.

Three days after our arrival, the first half of the expedition—6 Germans and 44 porters, sirdar, cook, etc.—left Darjeeling. The second half, 3 Germans and 42 porters, followed two days later; with these came Colonel Tobin, who for the following weeks was our guide, philosopher and friend. Eight days later the head of the column attained Lachen and began at once preparing a path through the forests of the Zemu valley. Ten days later, August 18, the base camp (Camp III) was established on the Green Lake plateau at a height of 14,343 ft. Equipment and parties were ready, and we began the exploration of the N.E. side of Kangchenjunga, as well as testing our own fitness for so unwonted an undertaking: 3 Germans and 2 porters started for the Simvu massif, 2 Germans and 1 porter for the foot of Kangchenjunga, another party broke ground in the direction of the chain N. of the Zemu Glacier. The Simvu party slept the first night on the S. side of the Zemu Glacier—where it bends towards the S. at a height of 15,600 ft. It snowed in the night and thick clouds enveloped the party, so that only towards 9 A.M. could the steep N.E. moraine of the Simvu Glacier be ascended. The ice was then entered on at a height of about 16,000 ft.

Here, for the first and last time, the action of a porter delayed the party. However, the other porter, Lewa, added to his own pack the principal part of his comrade's load, leaving him some warm clothing so that nothing could happen to him. This casualty was sent back on the first opportunity. The Simvu Saddle was attained on the same day, where snow recommenced, so that camp had to be pitched lower down; here the missing porter, driven by hunger, rejoined the party. On the following day, turning some difficult places close to the saddle, the party bore upwards along the ridge of the Simvu Peak. Thick cloud boiled all around, and as this never

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diminished during the many hours spent under shelter of a Zdarsky sack, a descent was made to the camp.

On the following day it cleared, with a temperature of — 11° (C.). Soon the Sahibs had again reached the ridge and for the first time perceived the summit of the Simvu Peak, from which they were separated, however, by a torn glacier lying considerably lower down. The ridge on which they stood led first southward over several elevations, each to be reckoned in the Alps as a separate peak, then eastward towards the main summit, in the then circumstances and time available quite impossible of access. An attempt was made to reach the nearest point, but the slopes were so steep and in such bad condition—fresh snow on ice—that they could not be touched. At a height of 18,500 ft. the party turned regretfully downwards.

The Kangchenjunga party, accompanied for part of the way by Colonel Tobin, was more favoured by weather, although only a short distance away from the Simvu detachment. The day was mostly clear, the fresh snow fallen in the night vanished in the early hours of sunshine. We had two objectives as possible routes: the E. arête leading from the Zemu Gap, and the N. arête connecting Kangchenjunga with the Twins. The E. arête is terrifically long, with many ups and downs, as well as terribly exposed to wind; it could only be attempted if quite free from technical difficulties, and, in any case, leads at the best to the second of the lower tops. The N. arête, on the contrary, rises regularly, is relatively sheltered and comparatively short. If it could be reached from the depression [2] between the Twins and Kangchenjunga, then was the best route up the mountain found. This hope, however, came to naught; from the depression a tremendous icy and corniche-crowned rock wall falls, at a terrible angle for some 3500 ft., to the Twins Glacier. Even if this wall could possibly be forced by regular assault, it was nevertheless obviously impracticable to bring up porters day by day, for weeks on end, in such an attempt! As a last resort we examined a spur splitting off on this side, high up from the N. arête, and plunging down towards the E. Its upper part was clearly feasible, but the reverse appeared to be the case with the lower. The 'Kangchenjunga' party, convinced of the impossibility of 'Munich Gap,' studied this N.E. spur

[2] Colonel Tobin was kind enough to christen this depression 'Munich Gap.'

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from both sides—from the Twins and from the upper Zemu Glaciers. The aspect of the lower part, crowned by many vertical ice pinnacles, was terrible. Gullies, clefts and ribs in the slopes of these pinnacles left, however, an avenue of hope, despite all appearances to the contrary. For a mountaineer it is the one remaining possibility of access to Kangchenjunga from this side, and the more closely I studied these pinnacles the more was I convinced of the possibility of this spur and of the necessity for an attempt.

The 'Northern' party had perceived from the elevation near Camp III (*ca.* 17,000 ft.), in the centre of the chain N. of the Zemu Glacier, another glacier flowing gently from a snow saddle in a W. to E. direction and of several kilometres in length, which then turned sharp to the S. Camp was pitched on a grassy terrace some 16,000 ft. high, close to the tongue of this glacier. The fine weather of the following morning soon changed for the worse, compelling an alteration of plans and an attempt on the nearest elevation of the chain. As this elevation, reached by an intermediate buttress, was attained (*ca.* 19,000 ft.) the weather became completely overcast, and the party, after a long wait, accordingly descended. The weather continued so bad for the following days that the party, having stayed for two days in camp, returned from their fruitless reconnaissance.

On August 24 and 25 we were all reassembled in the Base Camp. Our experiences had shown that equipment and party were sufficient. The porters had proved themselves. Although still in the monsoon season, the weather was very similar to an unreliable summer in the Alps; there were frequent but desultory storms. We had all, without exception, become acclimatized to altitude and had not belied our reputed capabilities of carrying heavy loads. Accordingly we felt ready to come to grips with Kangchenjunga. As Nepal was still closed territory to us—we should otherwise have explored the N.W. slopes of this tremendous peak from the Kangchenjunga Glacier—we began our assault on the N.E. spur, which had at any rate one redeeming feature, its immunity from avalanches.

The high-altitude porters were fitted out with clothes, boots, goggles, crampons, axes and ropes. Superfluous and useless men, among whom were 10 former Everest porters,[3]

[3] It is but fair to add, as the Editor of the *Himalayan Journal* points out (*loc. cit.*, 1930, p. 18), that several of these men—notably

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were left behind. We took 17 Sherpas and 8 Bhutias, of whom 5 only were on Everest. While Colonel Tobin started for Darjeeling by the Yumtso La and Tulung Monastery, we set off from the base in three parties composed each of 3 Germans and 6–8 porters. The dates were August 26, 28 and 30. While the first party pitched the advanced base camp (VI) at the foot of Kangchenjunga, at a height of 16,183 ft., making a route through the icefall above the camp, the last was busy with the forwarding of stores and remaining loads to Camp III.

A first attempt to scale the 700 ft. high icefall failed. The way led under threatening séracs and astride ice ridges as high as houses; we even had to rope down on the return. This route, impossible for porters, gave us, however, a glimpse of the upper glacier basin leading fairly gently to the foot of the wall and the lower doubtful part of the precipitously rising S.E. slope of the N.E. spur. On the following day we found a feasible route further W.

As the last party reached Camp VI we were fairly sure of the route, without in the slightest degree comprehending what difficulties it might afford. We had trained the keenest porters in axe and crampon work, and especially in the manner of belaying themselves and rope management. From the uppermost glacier basin it did not appear impossible to attain the more level portion of the crest of the N.E. spur over its 2800 ft. steep slope or wall. From a fresh camp (VIIa, 17,749 ft.) at the foot of the slope under overhanging rocks, we tried to force our way. First zigzagging about over snowy ledges, under perpendicular steps trying to avoid stones and avalanches, we crawled slowly upwards. Great boulders, a cubic metre in size, flying into space compelled a sharp look-out; we had nearly attained the crest when the weather worsened so much that a return became obligatory. On the following day a larger party, 4 Germans and 3 porters, started off up the same route, provided with bivouac equipment and food. Their duty was to prepare a fresh camp on the crest of the spur. The weather was perfect. What could only be seen dimly through thick cloud yesterday, now lay quite clear before us. The steep slope leading up to the lowest depression in

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Lobsang, who rendered splendid services on Kangchenjunga in 1930, and Sonam Tangay—had but recently returned from the fatally insane 'Farmer' expedition, during which they had narrowly avoided death by starvation. Namgya, my trusty 'personal' Bhutia in the 1922 Everest expedition, had been severely frost-bitten on that mountain in 1924; he also had to fall out early.—*E. L. S.*

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the ridge was seamed with countless ice flutings between which rose sharp, serrated and corniche-covered ribs. The traverse of this slope, appearing possible only yesterday, now seemed impracticable. We tried to climb straight up, but soon the entire party of 7 stood spread-eagled one above the other on the smooth icy slopes without the slightest means of security. We came to a full stop. I now scrambled up to the leader, Allwein; the wall was very hard, it was impossible for all the party to proceed, especially as the last 5 were in the gravest danger of stonefall. Aufschnaiter and I at once led down the 3 porters, while Allwein and Thoenes tried to reach the ridge without packs. This attempt failed also, owing to steep slabs and treacherous snowy bosses. On the following day Allwein and Thoenes reached the ridge by a steep ice gully more to the right; this gully was too hard, however, for the porters, while the ridge, crowned by snowy hummocks 40–50 ft. high, falling away further on in a perpendicular gap 200 ft. deep, seemed impracticable.

Opinions in Camps VI and VII were very divided. I opted for an attempt on the E. arête from the Zemu Gap, but could not decide on the abandonment of the N.E. spur without a most determined attack. Accordingly we pitched camp 900 ft. higher up the slope or wall, for a last and conclusive attempt on the following morning. The porters had an optimistic feeling about the result; before returning to the lower camp, Keddar, grinning all over, produced a white veil from his breast-pocket and fluttered it over us as a talisman.

During the night, while distant lightning flickered with ghostly effect over the final pyramid of Kangchenjunga, we spoke somehow for long of a remarkable contrast—of the marble château of Hollebeke where we had lain in the front room around the piano on precious carpets stretched on marble friezes, while in the back rooms enemy shells exploded—and of its once occupier, Cléo de Mérode, who had certainly not deserved our thoughts here in the heart of the Himalaya!

On the following day the weather was uncompromisingly bad; still, a decision had to be taken now: no other choice was possible, we had to try to hew a breach in the countless snow bosses and force a slow progress up the slope to the ridge. The first man, well belayed, began his arduous snow labour. It seemed a hazardous beginning to trust to these vertically rising hummocks, springing many feet upwards from their slabby foundations. With time, however, progress was possible; icicles, thick as a man's arm, interwoven with

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the névé, gave a quite unhoped-for security, even when profound chasms gaped out in the retaining curtain. The leader cut carefully upwards, 15 minutes at a time, to maintain his strength at this great elevation. At last, after 75 minutes, a way had been hewed through the first rib and up the gully, so contrived that laden porters could be fairly secured. Other leaders succeeded each other, but soon the labour had to be abandoned as small avalanches began pouring down the gully. We turned back care-free at the thought that we had discovered the necessary technique for making the formidable slope possible for loaded porters, even if we had not reached the crest that day. We had taught ourselves by a remarkable and new kind of ice-technique how to turn obstacles safely, and, above all, had learnt that even at this height it was possible to undergo the hardest step-cutting.

Further snowfall on the following day compelled a retreat to Camp VI. After one fine day, employed in another attack on the ridge, again a great snowfall occurred, and avalanches drove us to evacuate once more Camp VII. An entire day in deep fresh snow was spent in removing the equipment from Camp VII to VI.

On September 13 the weather at last cleared up, and fresh parties set out for the ridge. As it appeared highly questionable whether the difficulties of the N.E. spur—now becoming highly evident in the uppermost parts of the crest—could be overcome, it was settled that 3 Europeans and 2 porters should be detached to reconnoitre the approaches from the Zemu Gap. The first attempt towards the Gap, on September 4, had led to no conclusions owing to continuous bad weather. Camp VIIb was pitched at 18,569 ft. in the wall and christened the 'Adlerhorst' (eyrie), as it was placed on a rock barely 7 ft. square overhanging the precipitous slope below a tremendous perpendicular tower—the 'Winklerthurm.' We had *two* Camps VII. The first lower down, VIIa, was abandoned later on and we used only the upper camp, 900 ft. higher up, VIIb.

Two more days of strenuous step-cutting in ice brought us to the crest of the ridge and a scene of incomparable splendour. Nearly vertically below us lay the Twins Glacier, while slopes of 60° led downwards, on the further side, to the Zemu Glacier. Icy and shining pinnacles led upwards for 6500 ft. In a wide cirque above us towered the ice-slopes of Tent Peak, the Twins, Kangchenjunga, Simvu, above the two mighty glacier basins. Avalanches thundered in continuous icy

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cascades down these faces, behind us endless glacier shapes swept into the dim and cloudy distance. For two days we toiled and struggled in conquering the three towers—so inconspicuous from below—on the level part of the ridge, and at last reached the base of the precipitous step. The Zemu party was now dissolved, since here on the spur every man was precious. The next day should have brought us at length to a snowy ledge in the great step which I had already fixed on as the site of Camp VIII. Night, however, intervened before we had quite reached its level. We were still about 300 ft. lower than some perpendicular gendarmes, impossible of negotiation at that hour. Bivouac material and provisions were dumped where we stood. The porters, belayed to a well-buried axe, watched us with astonishment scooping out a place for the camp in a corniche on the dizzy ridge. Then Aufschnaiter and Kraus descended with them to Camp VII, while Beigel and I settled down in our tiny tent. The spot was not altogether trustworthy, since in one place where the axe had been deeply driven, we could look down through a hole on to the Twins Glacier. We slept well, but at dawn great care was necessary in distributing our stiffened limbs properly while wriggling gingerly out of the insecurely pitched tent. Hardly had the sun begun to thaw us than we started on the first gendarme, hacking out layer after layer of ice from its flanks till we could force a way past it on the left and attain a névé slope at an angle of fully 70°. Two hours later this also lay below, and we had cut a good deep zigzag track through it connecting each icy boss with the next. A hundred feet below us lay the little tent, above us rose more ice pinnacles. A little ice crevice, enlarged by us into a chimney, brought us some 20 ft. higher up the steepest part of the névé, much hampered here by many corniches. By the early afternoon we stood at length at the base of the last pinnacle separating us from the first platform in the spur. We saw the 'shock troops' (Nos. 2 and 3 parties) approaching from below with their porters; quickly we levelled out a space on the terrace for our friends' camp, and then turned downwards as the spur now lay in shadow. Soon it grew so cold that danger of frostbite became threatening. We met the other contingent, Allwein and Thoenes, with the porters Chetin and Lewa, just as they attained the terrace.

On the following day Allwein and Thoenes took on the pinnacles above Camp VIII, while Beigel went up from our little tent to that camp so as to bring down the two porters.

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Photo, Bavarian Expedition.

N.E. Spur and Neighbourhood of Camp VI.

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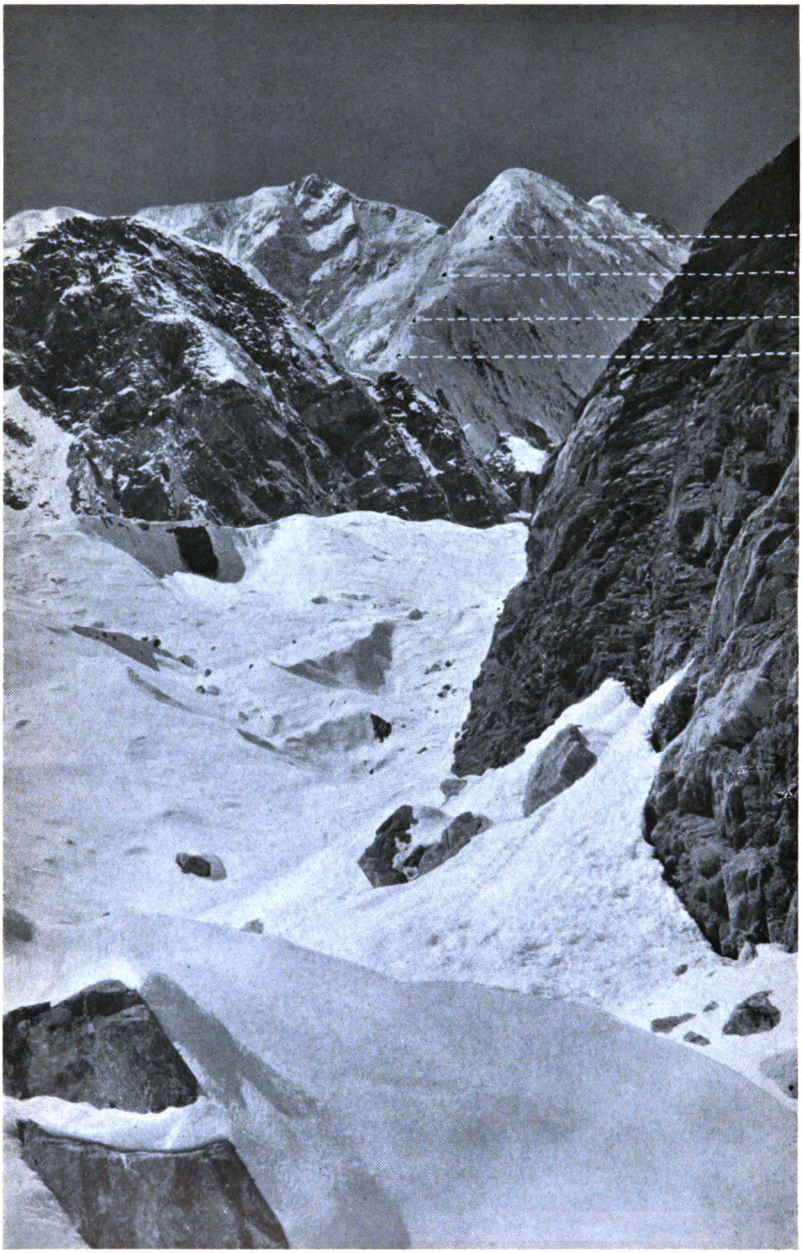

Photo, Bavarian Expedition.

KANGCHENJUNGA and N.E. Spur
from Twins Glacier.

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It is perhaps of interest to relate that I felt very weak on this day, and was also unable to go up with Beigel. I lay in the tent for some time, but about 10 A.M. began cutting again round the first pinnacle; at first I had to work slowly, but gradually increased the pace as normal power and health returned. All of us suffered once or twice from similar occurrences, arising evidently from over-exertion; half a day's rest proved sufficient to recover from these lapses, even when leading to real bodily faintness. We Germans had only one case of true mountain sickness among us, but 2 porters could not be brought higher than Camp VII owing to this cause. Beigel came back towards midday with the porters, and we began to scramble up towards Camp VIII. A party led by Aufschnaiter and Kraus brought the news from Camp VI that Shebbeare had arrived there, convoying food and stores from Darjeeling. I went down with Aufschnaiter to see him, leaving Allwein, Beigel, Kraus and Thoenes to carry on the work.

Now came the hardest labour on all the N.E. spur. A few ropes' length above the tents of Camp VIII (20,737 ft.) came the base of the first 70-ft. perpendicular step. It had to be stormed by the crest. After 15 ft. of ice-work, there followed an overhanging crack filled with powdery snow leading diagonally upwards and to the left; it was blocked by a corniche above. After flogging down the greater part of the overhang and corniche, a comparatively easy ascent was however assured. A short way along the crest there followed the second and harder pinnacle. It was scaled roughly by a short, nearly vertical ice runnel, a traverse to the left into a hollow, a steep ascent to the right back on to the crest, followed again by a scramble up the ice wall ending in a corniche. We christened it the 'Wendeltreppe.'

The following twin pinnacle is quite different. It hangs over the ridge like an enormous mushroom, some 120 ft. high. On the Twins' side rises a wall formed of wind-blown powdery snow above the overhanging bulge. It was dreadful work crawling up on the treacherous powdery mass poised above the nearly perpendicular Twins Glacier slope.

The next pinnacle gave us the longest work of all. Allwein's report reads as follows: 'On reaching the fourth tower on September 23, we were at first completely at a loss, the crest appeared vertical or even overhanging, so was the slope falling towards the Twins Glacier, and so indeed was the left flank as well. Yet on this latter flank depended our

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only hopes, for a tiny ledge led upwards in the face crowned with a huge corniche furnished with a deep recess hollowed out of the ice in its centre. Higher up, the ledge soon ended under impossible ice overhangs, leaving no other alternative but from the said recess to burrow a shaft perpendicularly upwards through the wide-stretching corniche. We worked away the whole day at this tunnel, but on returning to camp at 4 P.M. the work lay still unfinished.

'On the following day we endeavoured to improve the route; corniches on the first and second pinnacles were still further abolished, thus making a quite convenient gangway. I crashed down enormous masses of overhang on the third pinnacle while Thoenes engineered it from below, till finally this originally difficult and dangerous pinnacle became the easiest of all. Then again we set to work on the tunnel, which Beigel finally completed in an hour's labour. He emerged first on to a narrow ledge under overhanging névé, then tried an aperture to the left but failed to connect. Thoenes next cut up a névé slope to the right, to the summit corniche, where I completed the task.

'On September 25 we stood above the long-dreaded 200-ft. gap. A great dizzy rib, corniched on both sides, leads to its foot. The rib was barely 2 ft. wide and the snow so soft that we could make no proper route and only beg the porters to follow exactly in our footsteps. The first step of the great succeeding tower is comparatively simple, although excessively fatiguing. A steep snow runnel leads parallel to this crest on the latter's S. slope; up this we struggled after clearing away enough soft snow to enable steps to be cut in the underlying firm névé or ice. We joined up together on a little shoulder half-way up. The final climb began with a steep zigzag which I hacked across the S. slope of the tower. After about 100 ft. there followed another upwards traverse to the left under and along a great corniche. The wall was fearfully steep above, the snow very deep, and my progress proved tantalisingly slow. The work always appeared easier a few feet above, but instead grew actually steeper. Beigel had long gone up round a tooth to belay me, and yet the final corniche would *not* come! Its conquest was exceedingly difficult, as its base was masked in masses of rotten snow in which I had to work my utmost to fashion reliable foothold whence to flog the corniche down. At last, even this hindrance was overcome and I stood again on the open crest—the last great obstacle was conquered. My companions followed quickly,

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Photo, Bavarian Expedition.

N.E. Spur between Camps VII and VIII.
The "Great Step."

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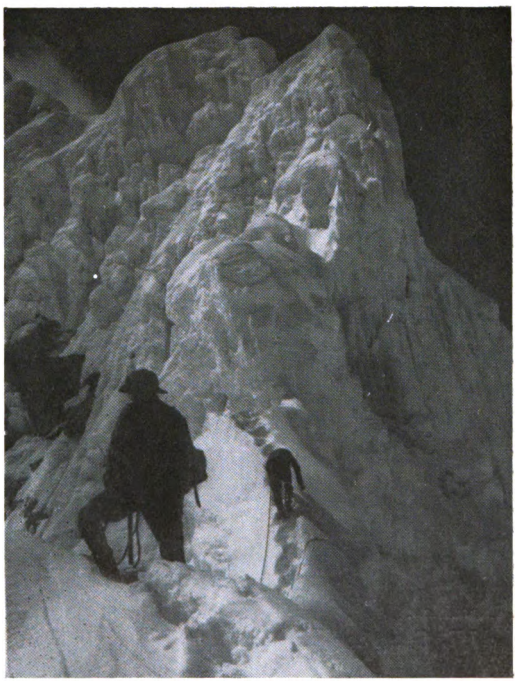
Photos, Bavarian Expedition.

Porters on N. E. Spur between Camps VII. and VIII.



Above Camp VIII., the "Tunnel" Pinnacle.

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while Beigel went on yet another rope's length to where another small pinnacle compelled a turning movement in the deep powdery snow of its N. slope: we christened this the "Pulverthurm." We then hurried back to camp.

'The weather was now giving us some anxiety, snow fell nearly every day and on this occasion all night as well, lying on the following morning fully a foot deep: however, the weather became fine once more.'

On my return on September 26 to Camp VIII with Brenner, Fendt and 5 porters, the route lay open towards Kangchenjunga, the most doubtful part had been overcome. It had cost two weeks' labour; often had we started in the dawn with the hope of accomplishing our purpose on the same day, we had settled on signals and reports to the lower camps for the start of the assaulting columns and to give these any necessary fillip, but never could we give the signals! Fresh obstacles always cropped up. Until the conquest of the great gap was accomplished it had always seemed highly problematical whether real progress was possible at all. Now, however, we were sufficiently far advanced for the thing to be certain. Camp IX was pitched above the 'Pulverthurm.' We scooped out ice-caves in Camps VIII and IX, holding 6–8 persons. The porters were at first mistrustful of these newly invented caves; soon, however, they had to acknowledge their worth. The entrance was made as small as possible, the temperature in the interior sank rarely below — 2° to — 3° (C.), while outside it was usually about — 10° by day and — 20° to — 30° by night. Inside, the cave resembled a marmot's shelter, but 3–4 hours' work was necessary for two men to enlarge the cave to hold six; some 13 to 16 cubic yards of ice and snow had to be excavated.

Above Camp IX (21,712 ft.) there were no special difficulties. Two easier towers were soon made accessible, a few snow-slab avalanches broke away, but it was always possible to secure the leader so that he could not slip far. Only one wider slope entailed great precautions when first approached, but the danger no longer proved serious once firm steps had been trodden in it. Camp X (23,057 ft.) was pitched on easy and open terrain; an ice-cave was also scooped out there. Feverish preparations were now made for the final assault. Leupold, stationed at Camp III and commanding the lines of communication from Gangtok to Camp VI, sent up all necessaries, and was getting ready to take part in the attack himself. Beigel, in charge of the commissariat and thus

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having the best insight into our requirements, descended with Fendt and Brenner to Camp VI in order to supervise the arrangements for transport above, while Brenner and Fendt took charge of Camps VI and VII. The rest all assembled in Camp X. The weather had become doubtful during the last eight days; there were no storms, but continual snow flurries intermixed with sunshine; a few clear hours every day, but no 24 hours' unbroken blue skies. According to all forecasts, October, the post-monsoon season, should bring settled weather and facilitate the start for the summit.

On October 3, while the last party, Beigel and I with the porters Keddar and Passang, returned to Camp X, and Thoenes completed the ice-cave of that camp, Allwein and Kraus went higher to reconnoitre and track out the route for the following day. Although the snow was not good—they often broke in knee-deep—they were able in an hour to accomplish about 350 ft.[4] They turned back at about 7400 m. (24,272 ft.). Their exploration gave the result that no more difficulties[5] were to be expected, but that owing to snow

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[4] Our height measurements were calculated from three aneroids, of which two were graduated to 10,000 m. and one to 7000 m. They were compared all through with two boiling-point thermometers kept in Camps VI and III, and consulted daily.

[5] Without in the very slightest degree wishing or venturing to detract from what was an astounding *tour de force*, we must nevertheless throw complete doubt on this optimistic statement. In the *Himalayan Journal*, 1930, p. 181, Colonel E. F. Norton, who has attained the highest *known* altitude, 8550 m. or 28,300 ft., states:

'Now the difficulties imposed by altitude only begin to be really serious from about 24,000 or 25,000 ft. onwards, both as regards conditions of the snow and rarity of the air.'

In an able article in *The Times* (August 9, 1930), Mr. F. S. Smythe writes: 'The Bavarians considered that they had overcome the principal difficulties. Such, however, is far from the case. These difficulties had scarcely begun. Altitude and its effects only begin to be serious over 24,000 ft., and being on the sheltered side of the mountain they had not yet begun to experience the terrible west wind which sweeps the upper part of the north ridge with such merciless severity. And last, but not least, is the final pyramid—a rock pile rivalling the upper part of the Matterhorn in its steepness and difficulty.'

These opinions are shared by all members of the Everest expeditions as well as by past and present explorers in the Himalaya. Dr. Bauer, having seen this note, writes: 'I know very well that there were difficulties, but the *technical* difficulties were not to be

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conditions a further camp would have to be pitched in the neighbourhood of the first peak—at about 27,000 ft.—and the final and ultimate camp, XII, at the base of the summit rocks. If our friends had dreamt for a moment that their point would prove our ultimate record, they could certainly have raised it by several hundred metres. As it was they turned hopefully back so as to save their powers for the morrow, and at noon were down again in Camp X. The German height record [1929] was thus achieved during a morning's stroll.

At nightfall hopes ran high in our ice-cave. What we had hardly dared to expect—the approach of Kangchenjunga's summit—seemed now at hand. As the dawn of October 4 appeared the sky for the first time was covered with forbidding black clouds, a cold wind was whistling and light snow falling: by 8 A.M. it was snowing hard. We had to alter our plans and prepare for a siege. Kraus and Thoenes, together with the porters Lewa and Chetin, descended to save food in Camp X, and help Brenner and Fendt with the transport. By nightfall on October 5, as it was still snowing hard and no signs of improvement were showing, we began to realize with heavy hearts that the ascent of Kangchenjunga was now barely possible. Only a deliberate abandonment of our hitherto 'safety-first' tactics for a desperate assault might result in success. This would entail a complete break-up of our lines of communication and result in 'every man for himself.' The 'summit' party could no longer, as hitherto, be supported by a reserve ready to leap-frog in case of necessity. Even with instant improvement of the weather it would take days for a relief party to fight its way through from below to our support.

The plan was accordingly changed. As the weather appeared too bad for an attempt on the summit, we wanted at least to learn something of Kangchenjunga's N.W. side. Permission

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compared with those we had overcome. The wind was quite another thing, but I hoped to escape it in our ice-caves and wait for a calm. In August and the first half of September it was usually calm every morning till the afternoon; some days were absolutely still throughout. The wind on the other side would, I hoped, compact the snow, giving us a comparatively easy walk. I know, of course, that altitude difficulties begin at about 7500 m., but I supposed we could get up to 8500 m. *without* loads, having carried 40 lbs. per man in deep snow at 7200 m. Anyway, my opinion is that any man who attempts the mountain is and must be an optimist!'—*Editor*.

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having meanwhile reached us to proceed through Nepal, I determined to avail myself of it and to send a party under Beigel on this duty, while Allwein and I, with the porters Keddar and Passang, would make our final and all-out effort. Hope smiled once more when October 6 broke unexpectedly clear and snow ceased falling for the first time for 48 hours. Beigel and Aufschnaiter descended at once, while Allwein and I with the two porters and four days' provisions started upwards. We had to capture the first peak at least! But even the start was unpropitious, for after two hours' hard work we had risen barely 250 ft. over the bad snow. The surface was wind-blown and only held until our full weight came on it; we then squelched thigh-deep into the flour-like stuff. Abandoning our loads, we struggled upwards for an hour and a half with the hopes of preparing a future route and obtaining a view. We had reached a height of possibly 24,000 ft. when retreat was determined on. The snow had to consolidate itself, and at least one more day was necessary.

As we stood once more in our ice-cave the atmosphere took on a most singular appearance. To the south a vast cloud-bank was forming at a height of 30,000–40,000 ft., while above Simvu and the Zemu Gap the sky became of an extraordinary sea-green colour—altogether a most threatening and terrible sight.[6]

Next day our cave entrance was again completely blocked up. It was snowing fiercely and many times we had to sweep the exit clear. By nightfall at least 7 ft. of snow had fallen and not the slightest change was apparent. A cataclysm of Nature seemed to foreshadow our doom. Any further attempt in the meanwhile was utterly out of the question, and yet with the goal so near we could not begin to retreat. Soon no other choice was possible, the Storm God was still piling snow on us, but, on the following morning, trusting to our powers and experience, we determined to 'wrestle one more fall.' The descent appeared humanly impossible, yet an attempt had to be made. Roped at the fullest possible distance[7] we fought our way down, leaving behind a furrow a man's height in depth. For a slightly *ascending* bit, not 150 ft. long, we took over two hours. Our unfortunate

[6] See *Round Kangchenjunga*, p. 114, for Mr. Freshfield's description of strange atmospheric appearances heralding the great storm of September 1899.—*Editor.*

[7] 130 ft. between each man.—*A.J.* **42**, 76.

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porters, laden each with some 80 lbs., sank so deep in their tracks that we, with our 40 lbs. load, had often to pass them and jerk them loose from below. The steeper slopes mostly peeled off in avalanches as the leader, tightly held from the rear, stepped on to them. The great and most dangerous slope, thank Heaven, had already avalanched: we went down a certain distance in the groove itself and thus saved a good two hours. Another slope, however, parted with Allwein and the two porters on it, but with a final and desperate effort I was just able to hold them. For ten minutes or more we lay motionless and exhausted before we could resume the fight. On our arrival at Camp IX we had to dig for half an hour before we could clear the ice-cave's entrance buried in 7 ft. of snow. Once inside we could lie still during the night, recovering our strength for the ensuing and most difficult portion of the ridge.

Next day things went wrong at the start. The porters were rather nervous and we could not get them down the great step. We led them back to the cave and, without packs, set out to render possible the traverse of the steepest towers. Next day we jettisoned a good half of our packs, throwing them down the 5000-ft. precipice on to the Twins Glacier; thus relieved, the party could re-attempt the struggle. At last the weather became fine; in spite of the weary labour it would have been pure joy to clamber along that wondrous ridge had we not been torn with anxiety as to our friends' fate, for nowhere on the ridge nor on the Zemu Glacier could we perceive a sign of living beings. At nightfall two days later, however, on entering the 'Alderhorst' we acquired the blessed assurance that all the 'ridge' party were at any rate still alive. Each of the two parties descending before us from Camp X had had a strenuous struggle. The porters kept falling heavily, avalanches poured down continuously. Beigel and Aufschnaiter had fared the worst; on October 7, the most trying day of the entire expedition, they were between Camps IX and VII. Alternately leading, each was swept off his feet in turn by the resistless downward rush of wind-compacted snowy masses. Once when traversing slightly below the crest, the leader slipped and was held only by the second man leaping into space on the reverse slope. This mishap caused the loss of both sacks and all provisions and bivouac material; both climbers had to spend the night on the ridge under a corniche without shelter of any kind. Beigel suffered severe frost-bite in his feet. All his toes and most of

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the ball of his foot became blue and black. Although Kraus and Thoenes with two porters had rubbed them ceaselessly for two days, his feet could not be saved.

On October 12 we trekked from early dawn towards Camp VI. From the upper edge of the icefall we perceived tracks below us on the Zemu Glacier. Brenner, Fendt and the porters had made them to the base of the fall. The latter they could not touch owing to the danger of avalanches. There at the base they met us and relieved us for some hours of the packs carried now for five days. Joy and congratulations met us in Camp VI, although communications were unquestionably severed with below. A snowy curtain many feet deep and several miles long separated us from the Base Camp. It took four days to plough our way thither. Everyone carried their own particular pack; the Sahibs broke the trail, sinking in below their knees, the porters followed, while in rear came Beigel supported on two tent poles, silent and uttering no complaint. On the afternoon of October 14 we came, luckily, on Narsang and seven porters coming up from below.

Leupold had spent a trying time in the Base Camp; for more than 14 days he had been without communication with the upper camps. The porter parties which he despatched above returned days later completely exhausted, unable to force their way through the drifts. On October 17 we put an end to his anxieties, and he hurried down at once to Lachen to send up relief porters and organize the return transport. We struck the German and British flags which had for many weeks marked the site of the camp, and, heavily laden, bade farewell to the autumn-tinted, débris-covered glen.

At the snout of the Zemu Glacier a fresh weather catastrophe descended on us. For three days it snowed and rained without intermission; the snowed-up bamboos and rhododendrons rendered progress almost impossible. Beigel, who had been carried during the last few days' marches, had again perforce to walk. The mountains' slopes became literally alive, the walls re-echoed ceaselessly with the continuous rumblings of landslides. We stood on the margins of mud-shoots before rushing across between each fresh torrent, as the slimy stream subsided into its greasy bed. At the end of the forest zone Beigel could again be carried by six Lachen porters there awaiting us. One carried him on his back while the others supported the porter. Keeping perfect step the brown, barefooted natives galloped along

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to the inspiring cry of 'Atsha! Atsha!' reverberating from the surrounding cliffs. On October 20, at midnight, Beigel and I, constituting the rearguard, arrived at Lachen. Dishevelled, dead-beat, our nerves worn out with the wild struggle against nature, with unkempt beards and covered with mud, we trod with heavy feet into the brilliantly-lit dining-room of the Lachen bungalow. Like a being from another world, a gentleman grasped us by the hand exclaiming, 'Oh, welcome, will you have tea or whisky?' Such was our reception by Mr. Patterson. I was so astounded that I seemed to recoil into civilisation spontaneously. My first drink was tea, but my second consisted of whisky.

We had to wait another day in Lachen because the porters had been compelled to dump the kits in the forest. The storm had caused such fearful damage to the Lachen path that its traces will be noticed ten years hence; the hamlet of Yatang further north was partly destroyed by landslides.

The trek to Darjeeling was henceforward but a joy, especially as our faithful porters could soon be allowed to march without loads, but our injured friend's condition caused us the greatest concern. Racked by fever, he had nevertheless to ride on horseback for five days, till at last by motor car and rail he could be carried to hospital in Calcutta, twenty days after his frost-bite. A fine constitution and an iron will kept him alive, and perhaps the cake presented to him by the charming wife of Colonel Weir, Political Officer in Gangtok, also helped! It was really the only thing he could eat on the whole journey from Lachen to Calcutta.

We met with a wonderful reception in Darjeeling. The Governor of Bengal honoured us with a luncheon party, while the Himalayan Club received us with a banquet in Calcutta, presided over by Major Kenneth Mason. A newspaper correspondent inquired from me whether I was 'disappointed'; his meaning gradually dawned on me and I had to smile. Well, certainly, we had failed to reach the summit of Kangchenjunga, but we knew we had achieved far more than we had dared to hope when leaving Munich. I will say nothing about our having beaten the German altitude record on Mt. Kaufmann by a clear 1000 ft., but we had found a route to Kangchenjunga, and had proved for the first time for certain that man, even at this height, can overcome the greatest difficulties and that the struggle against altitude can be carried to a far greater extent than had hitherto been deemed practicable. Also, from our weather experiences and observations it might

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be argued definitely whether the monsoon season is not the *best* for expeditions among the greatest Himalayan heights.

The bitterness of defeat is effaced almost from my memory by the joy of the salvation of all our friends and all our porters; by the fact that between us nine, despite all weariness and exhaustion, there never was the shadow of a dispute, and that we stand still closer together than even before. The remembrance of warm comradeship, Germans and Britons allied together in the fight for the giants of the Himalaya; the knowledge of friendship, binding us with so many over there in India, will be with us for ever.

[We must again express our sincerest thanks to Dr. Bauer for the privilege of being able to publish the narrative of a feat without parallel, perhaps, in all the annals of mountaineering.—*Editor*, 'A.J.']

The Assault on Kangchenjunga, 1930.

By F. S. SMYTHE.

(Read before the Alpine Club, November 4, 1930.)

WHETHER or not Kangchenjunga is the second or third highest mountain in the world has not yet been ascertained definitely. Allowing for various corrections, such as refraction and levelling, it has been placed, unofficially, as superior by a few feet to its great rival K_2 in the Karakorams. Actually, allowing for the errors which are liable to creep into the most accurate Himalayan surveying, to say nothing of a fluctuating snowfall, and even the geological uplift stated to be still raising the greater Himalayan summits, it can be assumed that there is practically nothing in it one way or the other. However, according to the 'Himalayan Journal,' the *latest* heights are: K_2, 28,250 ft.; Kangchenjunga, 28,227 ft., with a possible error each way of 12 ft.

In a general way there are two types of mountain peaks: the mountain that forms its own massif, and possesses its own glaciers and valleys descending to low levels; and the mountain which is merely a point projecting above a complicated glacier system. Kangchenjunga is a good example of the former; K_2 of the latter. Everest stands at the dividing line between the two types. Only in height does it surpass Kangchenjunga;

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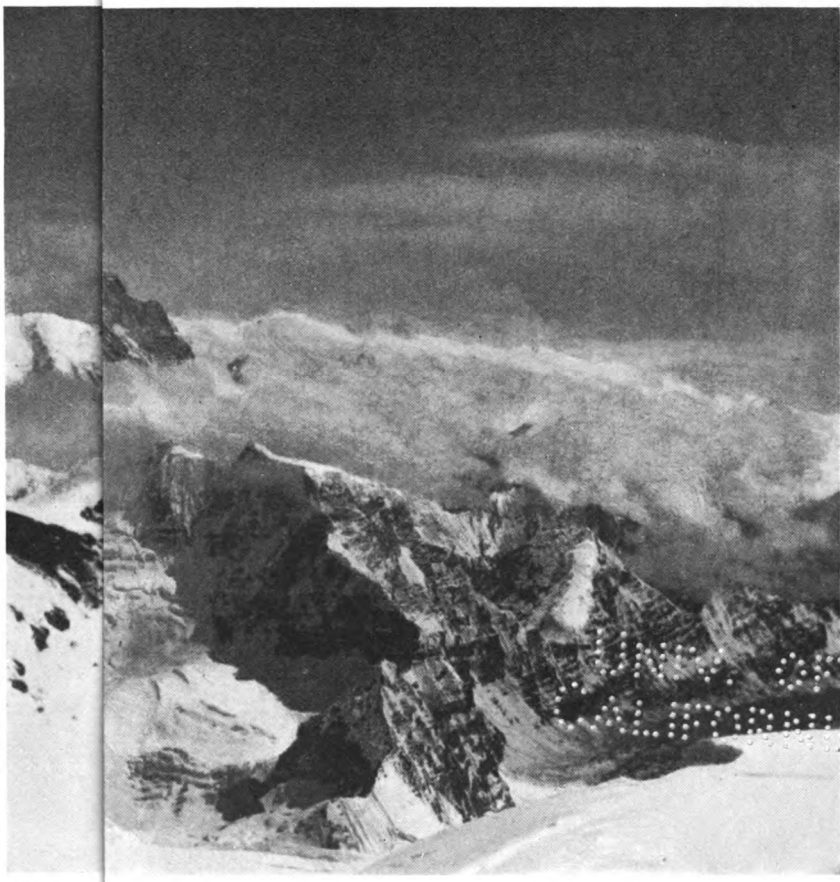

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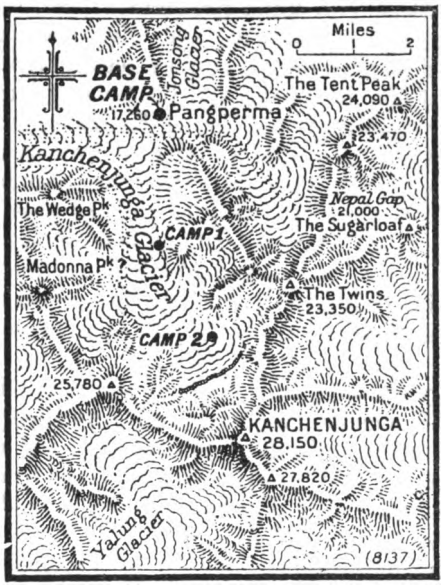
in beauty of form, and variety of scenery, flora, and climate, Kangchenjunga stands supreme above all other great peaks. It is not on the main watershed of the Himalayas, but juts out like a peninsula to the S. For this reason Kangchenjunga experiences the full force of the monsoon. Thus it has two winters, one normal, and the other the monsoon, splitting up the summer into two portions. The monsoon deposits rain only up to 17,000–19,000 ft.; above that it deposits snow.



By courtesy of 'The Times.']

There is an enormous precipitation of snow annually on Kangchenjunga, a precipitation probably at least three times greater than that of the Alps. The result is an abundance of hanging glaciers, all in a constant state of downward movement. There is no more terrible mountain in the world for ice avalanches. Owing to the monsoon there are only two seasons during which the mountain can be attacked. Both may be termed spring seasons. The mountaineer who goes before the monsoon experiences avalanche danger from the winter snows, and the mountaineer who goes after experiences danger from the monsoon snows. Thus, there is no real climbing season as we know it in the Alps, and little more than a month of reasonable weather can be expected on either side

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of the monsoon. This weather is only too liable to be spoilt by local disturbances, including terrible westerly winds, blowing literally for weeks on end.

From these bald details it will be seen what a formidable proposition the mountaineer is up against. Even assuming the mountain to be easy, everything else is against him. And the mountain is not easy.

The history of Kangchenjunga is linked with that of many names famous in mountaineering, topography, and scientific history. Of these two stand pre-eminent, Sir Joseph Hooker, the explorer and naturalist, and Mr. Douglas Freshfield. Mr. Freshfield was the first to explore systematically the glacial approaches of the mountain, and his famous journey in 1899, so admirably described in 'Round Kangchenjunga,' was one of the boldest and most useful pieces of Himalayan exploration ever carried out. Leaving Darjeeling, he ascended the Teesta Valley, explored the Zemu Glacier and the possibilities of the great eastern face. Driven out from there by an exceptionally severe snow-storm, he crossed the Thé La into the Lhonak Valley, and in deep snow and generally unpleasant conditions crossed the 20,200-ft. pass of the Jonsong La, and descended into Nepal.

On the way down he had ample opportunity of studying the great face of Kangchenjunga above the Kangchenjunga Glacier. His analysis of its difficulties, possibilities, and danger was, I think, the most admirable ever written on the problem afforded by any mountain.[1] Mr. Freshfield returned to Darjeeling *via* the Mirgin La and Kang La.

His explorations resulted in the publication of a map by Professor E. J. Garwood, who accompanied the expedition; a map which, as we found, is amazingly accurate, and is still recognized by the Survey of India as being the most reliable one of that locality.

It should be realized that all the approaches to Kangchenjunga were explored in the first place by British pioneers, and that, therefore, no succeeding party can regard the mountain or any ridge upon it as a 'discovery.'

With the exploration of the approaches, it was only a matter of time before someone attempted to reach the summit. The first attempt was made in 1905 by a mixed party under the leadership of one Aleister Crowley, author of an intriguing volume entitled 'The Confessions of Aleister Crowley,' and an

[1] *Round Kangchenjunga*, pp. 171–2; *A.J.* **22**, 122.

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expert in black magic—if not in mountaineering! This party marched up the Yalung Glacier, and attempted the face above. The attempt ended in disaster, one European, and three native porters being killed.

Kangchenjunga remained untouched for 15 years, until Raeburn and Crawford's attempt in 1920, resulting in little more than a reconnaissance owing to continuously bad weather.

In the early summer of 1929 a young American, Mr. E. F. Farmer, accompanied only by porters, marched up the Yalung Glacier and, leaving his porters, attempted to reach the Talung Saddle *alone*. He was never seen again. Close examination of the porters, including Lobsang, his sirdar, revealed that he alone was to blame, and that he paid the penalty for contravening a first principle of mountaineering.[2] None of these, still less the Crowley effort, can be considered genuine attempts on the mountain. Indeed, Kangchenjunga did not even call in its greatest weapons of defence—storm, cold, and avalanche—it simply let its attackers defeat themselves. But its complacency was to be rudely shaken in the autumn of 1929.

A party of Munich mountaineers, under the leadership of Dr. Paul Bauer, left Darjeeling and, proceeding up the Teesta Valley, established their base camp on Green Lake Plain, at the same spot where Mr. Freshfield camped in 1899. From there they attacked a tremendous ice-draped spur plunging downwards from the N. ridge to the Zemu Glacier from a point about 2000 ft. below the summit. The difficulties of this spur were extraordinary, while the labour of porterage was immense. Once again the Himalayan porters—Sherpas, Bhutias, and Tibetans—showed what stuff they were made of. At a height of 24,000 ft. they were overtaken by a storm of great severity, during which no less than 7 ft. of snow fell. All hope of reaching the summit had to be abandoned. It was a question whether they could even retreat, and that they were able to achieve this proves the skill and courage of this gallant party. In fact, in the forthcoming article by Dr. Bauer in the current JOURNAL, the Editor describes their attempt as 'a feat without parallel, perhaps, in all the annals of mountaineering.'

There is only one criticism, and that is that the party, when they considered that no further difficulties existed between their highest camp and the summit, totally underestimated the mountain. Some idea of the difficulties overcome may be gauged from the fact that in reaching 24,000 ft. the party took more

[2] See p. 363 *et seq.*

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than twice as long as the Everest expedition did to attain 28,000 ft., from their base camp. Time and weather will repulse many future attempts on Kangchenjunga.

To climb Kangchenjunga had been the ambition of Professor, and no less of Frau, Dyhrenfurth for several years. The party to leave Europe under the leadership of the Professor consisted of Marcel Kurz, Dr. Richter, who besides acting as medical officer was correspondent to the German papers, H. Hoerlin, E. Schneider and U. Wieland: Hoerlin and Schneider being the German equivalent of that well-known Swiss pair, Amstutz and Schumacher. C. Duvanel was engaged as film operator. My own particular job, besides climbing, was to act as special correspondent and photographer to 'The Times.'

Before leaving Europe we were the recipients of much good advice from various members of this Club, including General Bruce and Colonel Strutt. Professor Dyhrenfurth was told what clothes and boots he should equip his climbers with, equipment founded on the experiences of many previous Himalayan, to say nothing of Polar, expeditions, and it is unlucky that this advice was not taken. Fortunately, I had myself some inkling as to what was to be provided, so I equipped myself with plenty of Shetland woollies and light underclothing. It was as well I did so, for when I saw the equipment that had been supplied, I found that I was expected to carry a total weight, including an ice-axe (but *not* a rucksack), of 32½ lbs. to the top of Kangchenjunga, nearly a quarter of my own weight. The boots, with crampons, alone weighed 12½ lbs.! Weight does not spell warmth, and it is over the graves of former mistakes, and not on the wings of new ideas, that the greatest Himalayan peaks will be conquered.

We arrived at Darjeeling towards the end of March, having abandoned at Bombay the 500 bottles of beer presented to the expedition by some philanthropist. But even without these, we had about 8 tons of stores. How it was all to be got to the base camp was simply impossible of conception. Colonel H. W. Tobin, the Darjeeling Secretary of the Himalayan Club, kindly volunteered his services as transport officer, and I shall not easily forget his face when, on entering the 'Go-down' that had been rented, he was confronted with the expedition's goods. We were fortunate in being able to obtain the services of Mr. G. W. Wood Johnson, who joined the expedition both as a climber and transport officer, and Mr. J. S. Hannah. Wood Johnson was invaluable to the expedition,

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for he is a tea-planter by profession, speaks excellent Nepali, and is used to the management of native labour.

We were lucky also in having Mr. W. J. Kydd, at Darjeeling, to manage our mail and dispatches—no light task. Owing to the kind offices of Field-Marshal Sir William Birdwood, we were loaned a Gurkha N.C.O., who proved a very great help to the expedition. For sirdars we had Lobsang, Narsang, Naspati, and Gyalgen; of these Lobsang was incomparably the best.

On arrival in India we sought permission to pass through Nepal and attack Kangchenjunga from the west, but owing to the non-arrival of this permission were forced to plan an attack from the Zemu Glacier. Consequently, when at the last moment the Nepalese permit arrived, all our plans had to be altered.

As regards porters, many old Everest 'Tigers' were still keen to undergo perils and hardships of the nature of which they were fully aware. General Bruce had given me an introduction to his old servant, Lhakpa Chede. In this letter he flatteringly, if inaccurately, referred to me as his grandson. The effect of this was far-reaching, and I was henceforth known as the Nati Sahib, a fact proving with what esteem and affection the leader of two Everest expeditions is regarded in this part of the world. Although Lhakpa Chede could not come, I had for my servant Nemu, formerly 'Sandy' Irvine's servant. No one could have been more faithfully served than I was. Among the best of our porters must be mentioned Chetin, Lewa, Tsinabo, and Sonam, but these are but a few names among many equally good. No fewer than 400 porters had to be engaged, as mule or pony transport is impossible beyond Yoksam, five marches from Darjeeling. To obtain them we had to scour the Bazaar, and, as a result, many of the men we engaged were no good for the job.

Owing to the size of the expedition, Colonel Tobin considered it advisable to split up into three parties: the first with Wood Johnson as transport officer left on April 7, the porters leaving the day before; the second under the charge of Hannah was to leave the following day; and Colonel Tobin was to bring up the rear with 80 mule-loads of stores. The arrangement was that the first and second parties should send back porters over the Kang La to carry Colonel Tobin's stores over that pass. Unfortunately, however, neither Wood Johnson nor I knew anything whatever about this arrangement which had been made between Professor Dyhrenfurth and Colonel Tobin, with

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the result that a complete breakdown later was only narrowly averted.

To reach our base camp we had to cross the Kang La, 16,373 ft., and the Mirgin La, 15,000 ft. The winter was a late one, and snow lay deeply on these passes. From Darjeeling we had to pass up and down over the intervening foothills, through some of the most beautiful scenery in the world. To begin with we were attacked by innumerable leeches, the most unpleasant pest of the great tropical forests that line the lower valleys of this part of the Himalayas. We arrived at Dzongri in a blizzard. The next morning 50 porters deserted. I do not blame them; clad as they were in cotton clothing, and without boots, it was hardly to be expected that they should traverse a pass that involved thousands of feet of snow travelling.

Beyond Dzongri we pitched camp at about 12,000 ft. below the Kang La. Owing to the doubtful weather, Professor Dyhrenfurth decided to cross the pass in one day. It was a gruelling business: Wood Johnson remained behind to see that the porters got over the pass, and I went back from the camp to help him. Many of the porters were completely exhausted. There was one old man, I remember, who, although bare-footed and staggering, refused to abandon his load. Wood Johnson was almost dead-beat himself, for he actually carried many of the loads up the last slope of the pass. It was not until after darkness that a little string of worn-out men stumbled down the last slopes to camp.

Meanwhile, Hoerlin and Schneider had made the ascent of the Kang Peak, about 18,000 ft., lying to the S. of the Kang La.

The following day, April 17, we descended to Tseram. The porters had now been marching for eleven days without a rest, and they were completely worn out. A large number of them had actually traversed the Kang La in bare feet, and had carried loads of 80 lbs. on their backs. No words of mine can express the admiration I feel for them for their effort. Many were snow-blind, too, and one or two had frost-bitten feet. We were a dilapidated party, and badly in need of rest and reorganization.

We had hoped to find porters and food sent up by the Nepalese Authorities, but these had not arrived, and we heard that the Subadar appointed by the Maharajah to look after us was some 20 miles down the valley. We accordingly dispatched Naik Tickeram Thapa, our Gurkha N.C.O., in search of him.

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We had received a telegram asking us to make every possible search and inquiry for Farmer. It was suggested that we should look for him at the Decherol Monastery, but we found this to be a complete ruin. While investigating for traces of him up the Yalung Valley, Wood Johnson and I had an amusing experience. My servant, Nemu, suddenly became paralysed with terror, and declared that he had seen a snow-man. We crouched behind some rocks, and looking down the valley saw something moving among the boulders. We waited for a quarter of an hour, then suddenly, with majestic tread, out walked an enormous yak.

With the arrival of the Nepalese Subadar and a small quantity of coolie food, we were able to leave Tseram on April 21 and cross the Mirgin La to Khunza. On the way we passed the mouth of the still unexplored Yamatari Valley. Looking up it we could see some magnificent ice-peaks, whilst at the head of the Yamatari Glacier, Jannu rose in all its superb magnificence.[3] At Khunza we found that no provisions had been sent up from the lower villages, and the situation with only one day's coolie food left was a serious one. Fortunately, after some persuasion on the part of the Subadar, the Headman of Khunza produced several maunds, enabling us to carry on to the base camp.

At Khunza we were entertained to a devil dance at the quaint old monastery there, and not to be outdone in politeness, we 'obliged' with our gramophone. No one had ever seen a European before except the Headman, who remembered Mr. Freshfield. None of them had ever seen or heard a gramophone. The Chief Lama seemed to think that Messrs. Layton and Johnstone were the two holiest Lamas in Britain.

From Khunza we marched up the valley to Kangbachen, through woods carpeted with primulae, while above all towered cathedral-like peaks. At the end of the day we had to toil over the huge moraine of the Jannu Glacier, arriving tired at Kangbachen. Many of the porters did not turn up at all, and bivouacked out in the woods.

Owing, apparently, to intermarriage, a number of the inhabitants of Kangbachen are dwarfs. The fatigue of the porters made it essential for them to have an easy day. Professor Dyhrenfurth agreed with Wood Johnson, therefore, on a 3-hrs.' march. This information was passed on to the

[3] *A.J.* 20, illustration facing 177.

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porters, who were quite agreeable. Wood Johnson and I were the last to leave. It took us 5-hrs.' walking, unladen as we were, to reach the spot at which the others had camped, and this in a severe blizzard lasting all night. The site selected was at some tumbledown yak huts at the spot marked in the map as Ramthang. More than half the porters never arrived in camp, and spent the night out, many of them without shelter, in the blizzard.

On the following day we ascended the northern moraine of the Kangchenjunga Glacier to a spot a little below the corner that Mr. Freshfield calls Pangperma, where on a bleak, chilly, and damp grassy shelf we made our base camp. During the 4 following days we devoted our time to digging ourselves in, while preparing for the attack on Kangchenjunga.

Some superb peaks are in the vicinity of the base camp, the finest of them being the Wedge Peak. The western face of Kangchenjunga is also seen, but although farther away, the great mountain loses little of its grandeur. Directly above the base camp are some of 19,000–23,000 ft. peaks. Wieland reached the summit of one of these, which is rather less than 20,000 ft., whilst Wood Johnson and I were beaten by a storm within 200 ft. of the summit of another higher and more difficult peak. The weather was bad, afternoon snow-storms being the rule.

As neither Wood Johnson nor I knew anything of the transport arrangements made with Colonel Tobin, the latter was, through no fault of his own, in serious difficulties on the Kang La. Had Wood Johnson realized this, he would, of course, have sent back local men from Khunza to Colonel Tobin's help. The same applies in a lesser degree to Hannah's *bandobast*. Colonel Tobin had made a number of recommendations, including the leaving of a European at Khunza, but none of these were adopted. The result was that a complete breakdown in transport was only saved by unremitting toil on the part of Colonel Tobin, and later by Wood Johnson and Hannah.

We left the base camp on May 1 and, ascending the Kangchenjunga Glacier, established Camp I about a mile from the cliffs of Kangchenjunga itself. We were now able to see what we were up against. Tiers of ice-walls, anything up to 1000 ft. in thickness, ran for miles across the mountain face forming the edge of hanging glaciers liable to discharge huge ice avalanches at any moment. Our sole hope was to reach the N. ridge from the eastern tributary of the Kangchenjunga Glacier. We had hoped to find rocky shelves which Mr. Freshfield

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Photo, F. S. Smythe.

KANGCHENJUNGA (much foreshortened) from Camp 1; N. Ridge (in profile) on left.

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Photo, F. S. Smythe.

Ice Avalanche from KANGCHENJUNGA about to sweep route between Upper and Lower Camps 2 and also site of Lower Camp 2.

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had suggested might exist, but discovered instead hopeless precipices of rock and ice. Camp II was established at about 19,500 ft. up the eastern tributary glacier. From there we saw that the only way of reaching the N. ridge was to gain the lowest of three terraces stretching across the face of the mountain. The lower terrace is defended by a wall of ice varying in height between 700 and 1000 ft.

Professor Dyhrenfurth decided to attack this near its end under the N. ridge. This settled, he and Kurz, neither feeling at all fit and both suffering from high altitude throats, went down to the base camp. I must confess that until it was decided to attempt this ice-wall no thought of going on entered my head. A higher camp was established at about 20,000 ft. up the glacier, and from there Wieland, Wood Johnson and myself, who were the only fit members of the expedition, set out to investigate the route.

We found ourselves up against the toughest proposition any of us had ever tackled. The first day was devoted to making a staircase part of the way along a sloping ice-shelf. Then, in response to an urgent message from the base camp, Wood Johnson had to return with Hannah, who had only just arrived, and go down to Khunza in an endeavour to overcome the transport delay. This left only Wieland and myself, and we spent a very hard day finishing the traverse of the shelf; we then started work on a vertical or overhanging face about 30 ft. high. 'Welzenbach' pitons were used and hammered into the ice, the rope was then clipped through detachable rings, and finally through the permanent piton rings. It was certainly the most desperately difficult and dangerous ice-work that I have ever tackled, and had I had any say at all in the matter I should definitely have struck, because the risk of an avalanche occurring was too obvious to be ignored.

At the end of the second day Schneider came up, and on the third day we completed the ascent of the 30-ft. wall. Above this the ice 'eased off' to about 70°, sweeping up for about 200 ft. to the foot of another 60-ft. wall of vertical ice. At the end of these three days Wieland and I were tired, so the work was continued by Schneider and Hoerlin, the latter of whom had also arrived. They cut steps up to the foot of the final 60-ft. wall—a splendid piece of work.

All the time that we had been working many huge avalanches had fallen from the cliffs of Kangchenjunga. The weather, moreover, had been bad, and much of the work on the ice-wall

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had been accomplished in heavy snow-storms. By the end of the fourth day I was sleeping badly. In fact, I lay awake for much of the night tortured with doubts and misgivings, and when I did sleep it was to dream of danger threatening the party. The next morning I did not feel fit enough, either mentally or physically, for a start.

Hoerlin and Schneider had planned to take up all the porters, and try to overcome the final wall and establish Camp III on the terrace. The only ones left in the camp were the cook and myself. I was sitting writing in my tent when I heard the thunderous roar of an unusually large avalanche. At the same moment I realized with a thrill of horror that it came from the direction of the ice wall. Dashing outside, I saw that a huge portion of the wall immediately to the right of our route was collapsing. Great masses as large as cathedrals were toppling to destruction. A fierce wind-blast was flung before the avalanche, raising clouds of snow sprayed out before the avalanche like the smoke from a cannon. At the same moment I saw the party, mere black dots strung out in a straggling line on the slope below. I saw them halt, and then dash frantically to the left, but already the clouds of snow had far outflanked them. It seemed hopeless, they must be blotted out like insects beneath a tidal wave. The next instant they had disappeared completely.

With incredible velocity, the clouds of snow, beneath which I could discern vicious torrents of ice-blocks, came rolling down towards the camp. I had stood like one in a nightmare, yet what I saw seemed but the fulfilment of my dreams of the previous night. Then thought of personal danger supervened; the avalanche was not stopping, it might sweep the camp away. I yelled to the cook, 'Run for it,' and together we plunged through the soft snow. But running at 20,000 ft. in soft snow cannot be kept up long, and soon we fell down exhausted. As we did so we looked round; the avalanche was stopping. I said to the cook, 'They are all killed, but we must do what we can.' We seized ice-axes and set off to the scene of the disaster.

The sky was filled with boiling clouds of snow. It was a dreadful moment when these began to settle, for I expected to see no sign of the party. Then to my great relief I saw some figures by the side of the avalanche. Approaching them I found a group of porters standing dazed by the edge of the débris, piled several feet high. Only one of them was moving, and that was old Nemu, who was probing energetically with an

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ice-axe between the ice-blocks. I asked him what he was doing, and he replied, 'Load, Sahib, I lose load.' I said, 'I don't care a damn about your load, let's see who is still alive.' More figures appeared above, I could see something sticking out between the ice-blocks. Wieland saw it too. By the time I had got up Chetin had been dug out. He was terribly crushed. For some reason, simply, I think, because we were all dazed, we tried artificial respiration for some time. Schneider, too, was missing, and we thought he must be killed, but presently he turned up.

He had had a wonderful escape. He had actually been under the ice-wall when it had collapsed. He said, 'I heard a crack, and down it came, huge masses of ice. I thought I was dead, but ran to the left, and the avalanche missed me by 5 metres.' Chetin had been behind Schneider, and had not been able to run for it. The remainder of the party had been on the track where it extended farthest to the left. Even so the track was actually swept, and only running had saved them. Had they been ten minutes earlier or later everyone must have been killed. Their escape can only be called a miracle of the mountains.

We buried Chetin at the camp, marking the spot with an ice-axe. It seems a bitter thing to say, but he perished needlessly and uselessly, and a man such as he, perhaps the finest of all Himalayan porters, can ill be spared—R.I.P.

We descended to Camp I. The following day Professor Dyhrenfurth, Kurz and Dr. Richter came up, and a conference was held. I suggested abandoning Kangchenjunga in favour of something that *could* be climbed, such as the Jonsong Peak, but it was decided to attempt the N.W. ridge.

Ascending the icefall of the western tributary glacier, camp was established on an almost level snowy plain. Hoerlin, Wieland and I then ascended a steep 600-ft. couloir to the crest of the ridge. This is the most terrible ridge that I have ever set eyes on. It consists of huge rock-towers, and the amazing knife-edges of ice common to Himalayan arêtes. In all its 4000 ft. I do not think there is a single place where a camp might be pitched. It would be impossible to get porters up, and the rock is in many places terribly loose. Even if the ridge were climbed and a platform reached, 4000 ft. more of ascent would be necessary to attain the summit. This would entail passing over two other peaks—an impossible task if only because of its length.

In spite of a very adverse report, it was decided to proceed

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with the attack. Unfortunately, Kurz, again unwell, had returned to the base camp, and it was a pity that his great experience was not consulted in the problem. Had he been present I am sure he would have agreed that retreat was the only thing left.

During the night after our first reconnaissance we were kept awake continuously by a storm of wind. What would be the position of a party overtaken by such a sudden storm on that great arête of ice and rock?

The day after this we ascended the glacier to a small point at its head, starting from the col between the Ramthang Peak and the N.W. ridge. From here the said ridge looks totally unassailable, nevertheless it was decided to continue. On the following day Dyhrenfurth himself came up, and I sat with him on the summit of a gendarme while watching the advance of Schneider and Wieland. From this gendarme a 20-ft. *rappel* was necessary into a gap above which rose a tremendous rock-pinnacle, 300 ft. high. The ascent of this pinnacle afforded what must have been most difficult rock-climbing at an altitude above 21,000 ft. Schneider's leading was really magnificent.

On looking at the difficulties encountered, it was quite obvious that there was no hope. Professor Dyhrenfurth and I descended before the others. On the way down we witnessed a tremendous avalanche falling into the head of the Ramthang Glacier. The whole sky for miles round was filled with clouds of snow. Like the avalanche that killed Chetin its weight was incalculable.

From the Ramthang Glacier, Kangchenjunga looks hopelessly unassailable; it is protected by hanging glaciers stretching for miles across the mountain face. The reports of Schneider and Wieland were so unsatisfactory that Professor Dyhrenfurth had no option but to abandon the attack; but before returning to the base camp it was decided to attempt the beautiful Ramthang Peak, nearly 23,000 ft. high. Schneider and I were the only fit ones, and I was hampered considerably by being foolish enough to wear the 'expedition' boots. These, with crampons, weighed 12½ lbs. a pair, and are more suitable for a diver than a mountaineer. Lifting these boots up the Ramthang Peak was the hardest work I have ever undertaken. Schneider, of course, was far too sensible to wear them. We took ski to about 21,500 ft. on the E. ridge of the mountain. Then came an ice-slope of over 1000 ft. in which heavy cutting was necessary. Half-way up, however, we were lucky enough

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Photo. F. S. Smythe.

The N.W. Arête of KANGCHENJUNGA
(with Camp 2 on Glacier).

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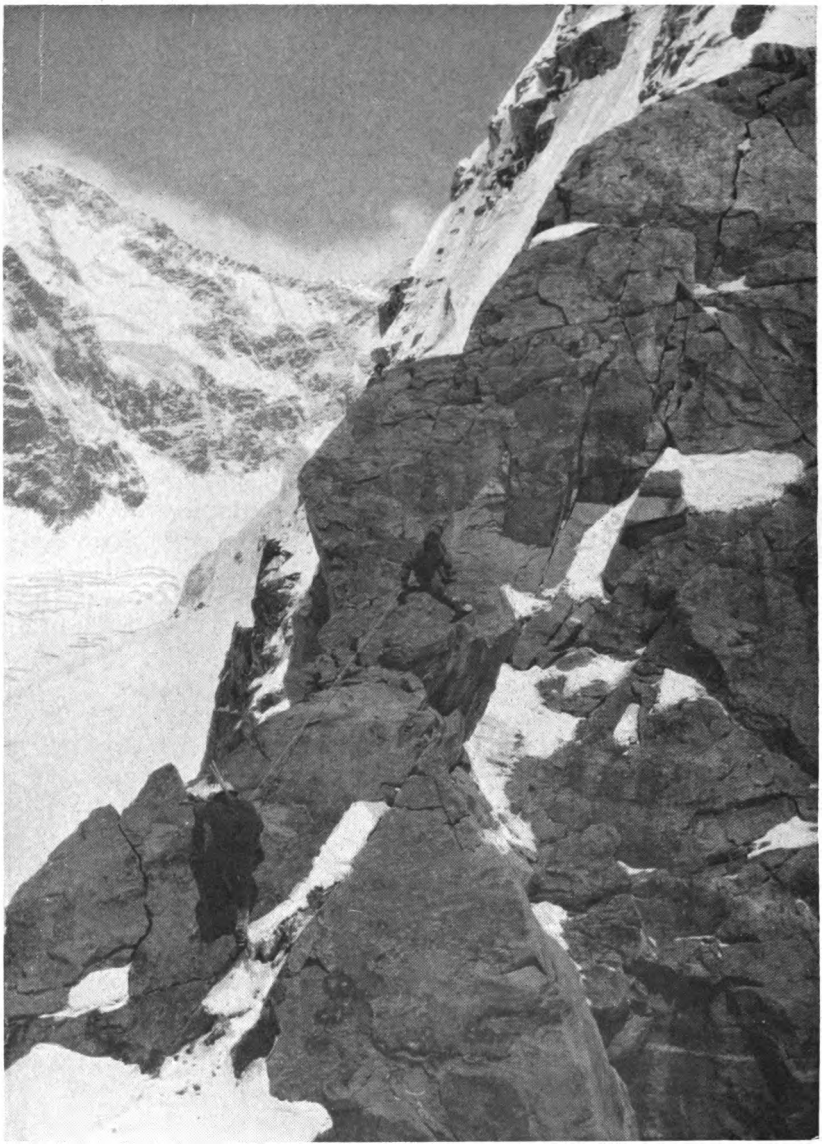

Photo. F. S. Smythe.

On N.W. Ridge of KANGCHENJUNGA
(Twins and N. Ridge in Background).

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to find good snow overlying the ice. While standing on this slope we witnessed a huge avalanche from Kangchenjunga, which I was fortunately able to photograph. This avalanche completely swept the ridge between our former upper and lower Camp II, and as far as we could see the site of lower Camp II as well. It took a mile of glacier in its stride.

The summit ridge of the Ramthang Peak provided a splendid ice climb, and had I not had to lift the 'expedition' boots along it I might have enjoyed it, for it put me in mind of the ice ridges of the Brenva face of Mont Blanc. In one place the edge was so thin that when traversing to the side one could put a head through a hole and gaze down 4000 ft. of terrific ice-armoured precipices forming the northern slope of the ridge. We reached the summit in thick mist which now and then blew apart disclosing tantalizing glimpses of peaks and glens. Returning to our ski we met Professor Dyhrenfurth and Lewa at the top of the ice-slope, but they did not continue farther, no doubt owing to the fact that Dyhrenfurth, besides being unfit, was also wearing the expedition boots! We ran down practically the whole way to the base camp on ski, a descent of over 5000 ft. Schneider is as good a ski-runner as he is a mountaineer, and I am afraid that I delayed him considerably. Also, in the bad light in a corridor between the icefall and the rocks below Camp II, I managed to fall into a concealed crevasse. I lay for nearly a quarter of an hour completely winded before I was able to drag my legs and ski out of the crevasse.

After 19 days it was a relief to get back to the base camp. I have never spent a more nerve-racking time in my life, for during the majority of those 19 days one never felt safe from the huge avalanches which fell from Kangchenjunga, and it was unpleasant to wake in the night and hear a thunderous roar coming nearer and nearer, and wonder whether the avalanche was large enough to reach the camp. I can only say that anyone who approaches this side of Kangchenjunga must take his own life *and* the lives of his porters in his hands.

We now decided to cross the Jonsong La, 20,200 ft., and attempt the Jonsong Peak, 24,344 ft. Hannah, unfortunately, had to leave. His work with the transport had been invaluable and we could ill spare him. Schneider and Wieland left the base camp a day in advance in order to explore the Nepal Gap attempted in the past by Dr. Kellas. From the Nepal side they found a practical route well to the N. of the actual gap which led down easily to the Zemu Glacier. Schneider

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also took the opportunity of ascending a peak marked in Professor Garwood's map as 23,470 ft. Thus he attained a point higher than Trisul, or Mount Kaufmann, the highest *summits* previously reached. He and Wieland, who had been unwell, rejoined us at our first camp on the Jonsong Glacier. Duvanel and Richter had been left at the base camp, but they were coming on later. Duvanel had been seriously ill; he had worked tremendously hard on the taking of the film, and had accompanied the expedition even up the ice-wall.

The problem was to get the 300 loads over the Jonsong La with only 80 porters to carry them. Thanks to the Nepali Subadar we were able to obtain some local help, many supplies had also been sent up by the kindness of the Maharajah of Nepal—to whom we owe a deep debt of gratitude—but it would be necessary to work the transport in relays, and the monsoon was approaching. Should bad weather supervene there might be a hopeless breakdown, and with one half of our transport on one side of the Jonsong La, and the other half on the other, we should be fairly stranded. But the weather did not break; it was the greatest piece of luck enjoyed by the expedition.

While on the subject of transport, I should like to say that, thanks to Colonel Tobin, Wood Johnson, and Hannah, the difficulties had been overcome, although these three had worked themselves almost to death. So hard had Colonel Tobin laboured for the expedition that his health had broken down, and he had been forced to return to Darjeeling. Without these three members the expedition would have been impossible. Apart from technical difficulties, things were not made easier by labour troubles. The porters had not forgotten the first eleven days, nor the many occasions on which they had had to subsist on half-rations, nor the night out in the blizzard, and now they declared their intention of striking unless they were granted one rest-day in four working days when traversing the Jonsong La. Once again Wood Johnson was thrown into an onerous situation which should never have arisen and over which he had no control. He had to placate our disgruntled labour. Of course the porters' requests were acceded to, for the men who carried loads to 26,000 ft. on Everest do not go on strike for nothing.

Between the base camp and the Jonsong La we established 3 semi-permanent camps. Frau Dyhrenfurth was left in charge of the first. She had borne hardships with uncomplaining fortitude. Many people had said that she would

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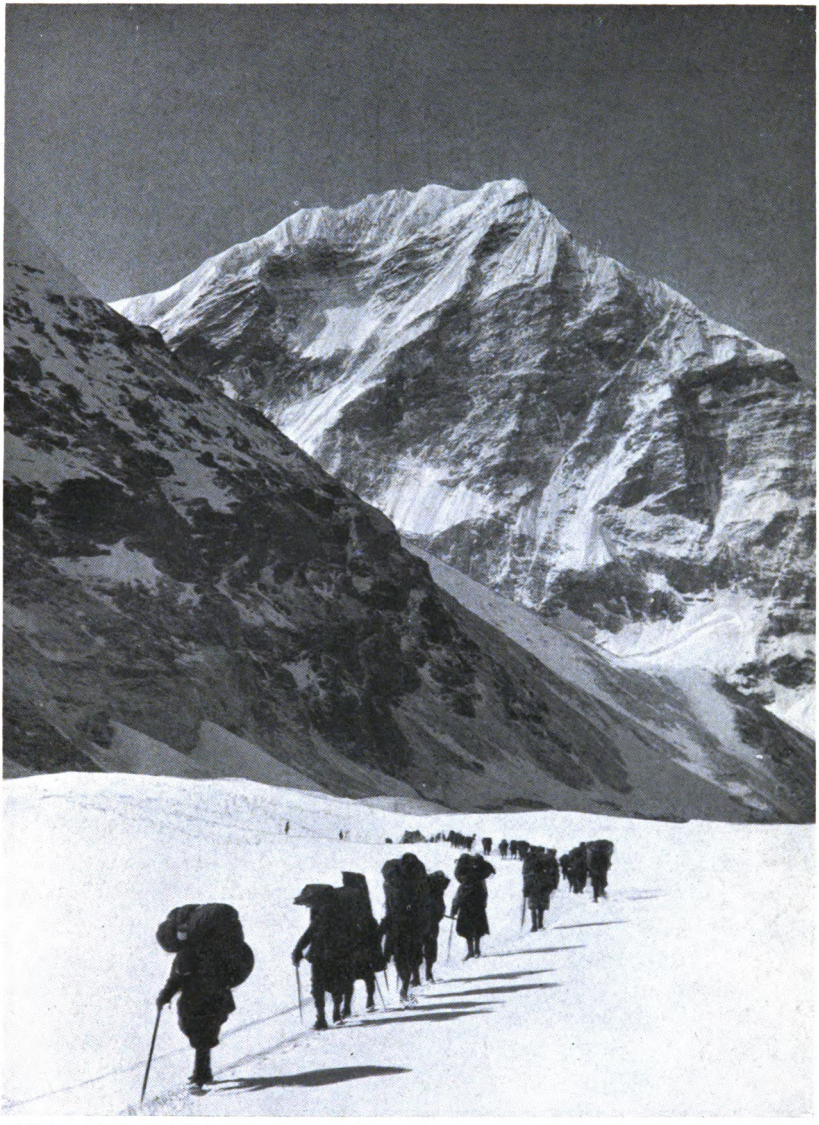

Photo, F. S. Smythe.

Approaching the JONSONG LA.

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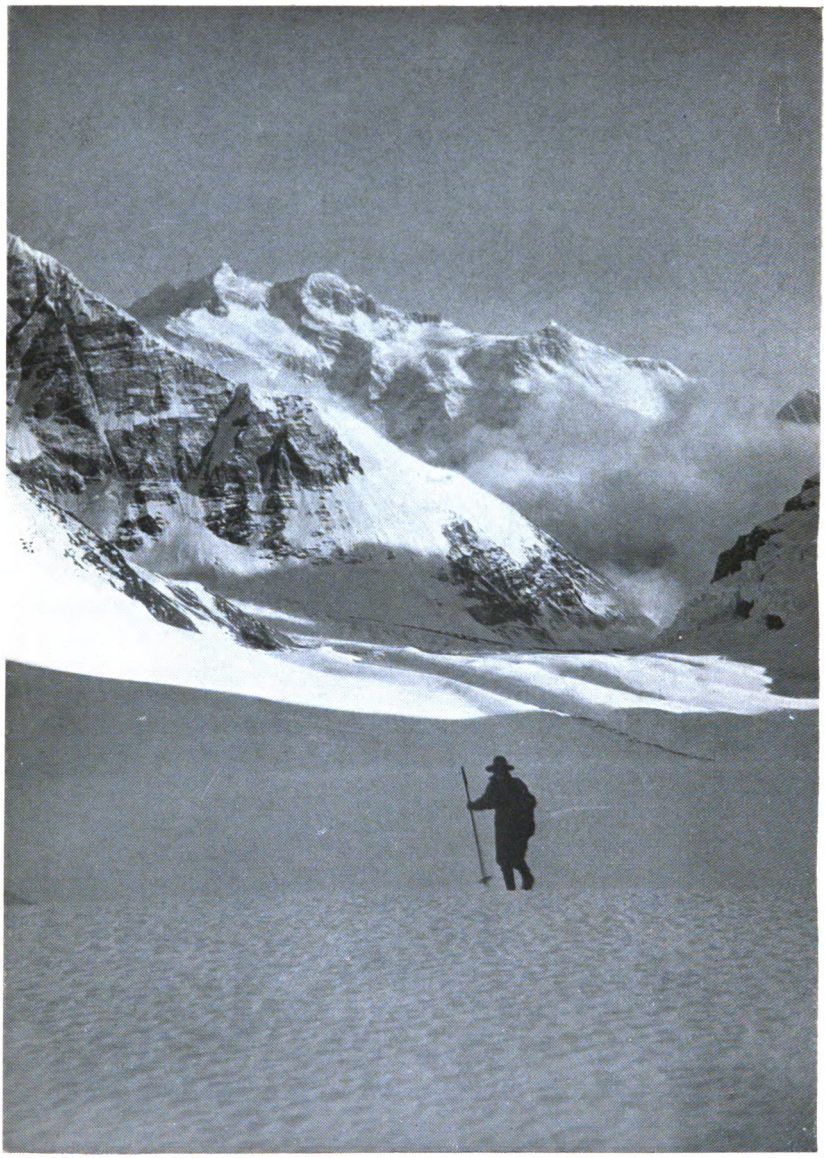

Photo, F. S. Smythe.

KANGCHENJUNGA from JONSONG LA.

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prove a hindrance to the expedition; she had been an asset, and her work with the transport and dispatch of stores had been invaluable.

On May 28 we crossed the Jonsong La, and descended some distance through abominable snow to our new base camp, the site of which was on the southern slopes of the Lhonak Valley and about 1000 ft. above the pinnacled Lhonak Glacier. We were now in a new country, a country of yellows and browns, similar to that of Everest. The precipitation here is markedly less than that of a few miles farther S., and the climate generally is different from that of Kangchenjunga. Only the Dodang Nyima Range separated us from the arid plateaux of Tibet, and it is practically on the edge of the monsoon area.

On May 30 Schneider, Hoerlin, Wood Johnson and myself left the base camp. We descended to the Lhonak Glacier, and ascended by the southern branch, taking care to keep well out of range of the great ice avalanches that must obviously fall from the hanging glaciers on the northern slopes of the Jonsong Peak. Crossing the glacier, we ascended to the ridge dividing the southern and northern branches, and there pitched Camp I. Dr. Kellas attempted the Jonsong Peak and reached the col on the N.W. ridge between the Jonsong Peak and a nameless mountain. Thence he had been forced to return by bad weather. This route showed him up as the great mountaineer he was, for at first glance it looks a hopeless one; actually, it is the one chink in the armour of the Jonsong Peak. Opposite Camp I the great 7000-ft. northern ice-face of the Jonsong Peak was seen in all its magnificence, but for once we could listen to the thunder of avalanches without fear of annihilation.

We had with us some dozen first-rate porters, the very pick of our 'Tigers,' and we left the next morning in good weather with high hopes. We had to descend some distance on to the head of the northern branch of the Lhonak Glacier. There we found terrible snow, a crust that held for a step or two and then let us in thigh or waist deep. In two or three hours we did not climb more than 200–300 ft., and it was very trying work for the heavily laden porters. Where the slopes steepened the snow was better. We ascended an icefall without difficulty, and toiled up a burning snow-slope to a perfect, natural camping site, under a stable ice-bulge, where we pitched Camp II.

The weather changed, and we awoke the next morning, June 1, in a heavy snow-storm. It was on this day, while we, mere men, were cowering in our tents, that Frau Dyhrenfurth

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with the last of the expedition's loads crossed the Jonsong La with no companions save a Nepali Subadar, a Subadar Major, and her servant. Such was the kindness and courtesy of the Nepalese Authorities that these men accompanied her to the Jonsong La, the boundary of Nepal and Sikkim. Thus, mainly due to her untiring efforts, the loads were got safely across the pass, the only casualty being the broken arm of one of the porters. There were, however, minor tragedies, such as the fall of the typewriter and gramophone records. Of the latter only the thick classical ones survived, but our souls hungered not for Wagner or Beethoven, but for the bass-voiced gentleman who used to advise us daily to give ourselves 'a pat on the back.' Owing to our leaving the base camp before food and fuel had arrived, we were short of both these commodities. In fact, we only had enough Meta to heat two cups of tea a day. If the snow-storm continued we had no option but retreat. It was still snowing on the following morning, June 2, but just as we were about to pack up and retire the weather cleared.

In deep soft snow we trudged on up the slopes above. Our camping site had been a little above the col reached by Dr. Kellas, and the N.W. ridge is here ill defined. It was not until higher up that the slopes narrowed to a genuine ridge. Behind us was the fine nameless mountain to the N.W. of Kellas's col; Professor Dyhrenfurth named it the 'Kellas Peak.' I suspect, however, that personal nomenclature will be changed to native names by the Survey of India. This is a practice which, I think, should be strictly enforced, for however great a pioneer a man may be, his name, which may be anything between Smith and Montmorency, is hardly an adornment to a great peak in the Himalayas. One can but hope that the world's greatest mountain range will not suffer the fate of the American and Canadian Rockies or the pinnacles of the Chamonix Aiguilles. I except, of course, the case of Mr. Amery, who so worthily atoned for the crime of others.

It was hard work plugging up the snow-slopes, and here and there were dangerously concealed crevasses. Where the slopes narrowed to form the ridge there were three steep icy waves in which steps were necessary. The last wave, or perhaps it would be more accurate to say bulge, was of blue ice, but a way was found of circumventing it by a steep, roof-like ice-slope. Above this we found ourselves on the ridge. There a disagreeable surprise awaited us: the ridge rose to a respectable little peak, and then fell in a series of sharp knife-edges before rising to another little point. To the S. of the

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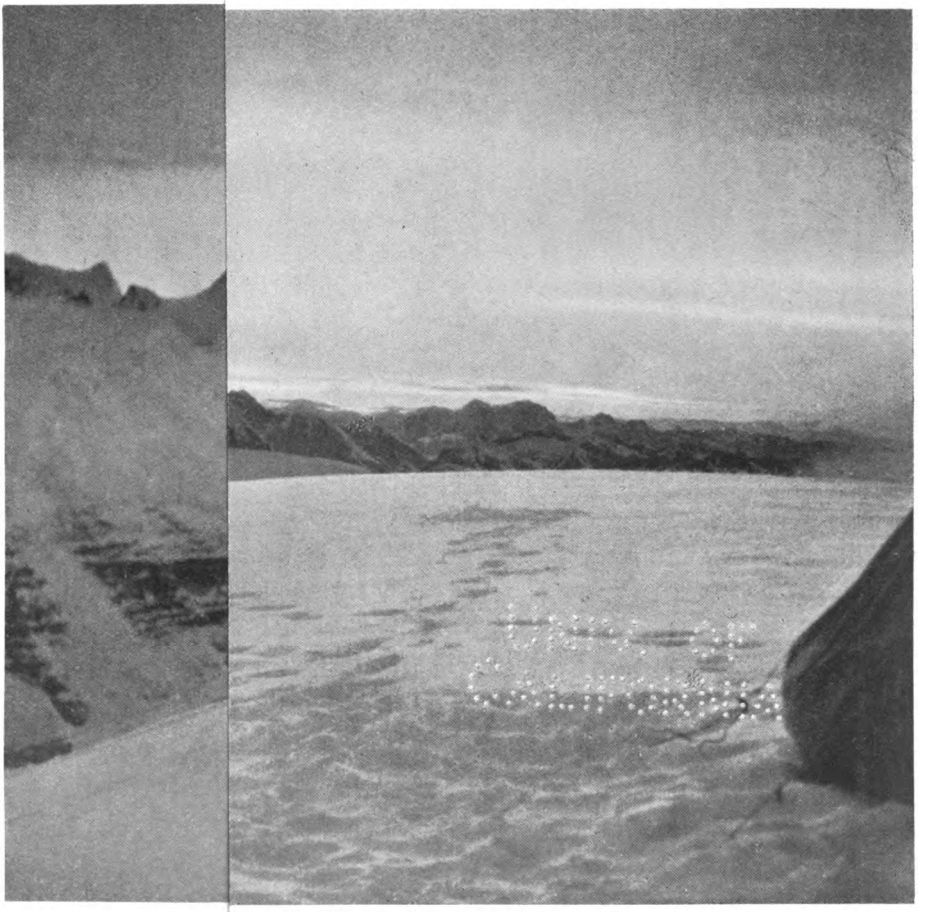

Photo, F. S. Smythe.

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ridge lies a considerable glacier forming one of the tributaries of a large unknown glacier, at least 15 miles long, which flows from the Jonsong Peak in a N.W. direction. A descent to this glacier was obligatory. There were two routes, one directly down the steep ice-slopes immediately beneath the ridge, and the second over the little peak and the ice-ridge until the latter fell to the col between the first and second little peaks, whence a descent of 200 ft. of ice-slope leads to the tributary glacier. Both would involve heavy cutting. If we took the porters it would mean an extra day to reach the summit. It was decided, therefore, to camp on the ridge, leave the porters, and make a bid for the summit. It would be a hard long day, but it was the sole alternative to retreat, for we had not enough food and fuel to play a waiting game.

The sunset that night was a magnificent one. We saw Everest and Makalu in all their glory; the N. ridge of Everest and the North Col were in profile, so was also the great Nepal face of the mountain plunging downward thousands upon thousands of feet at a tremendous angle. The wind rose at sunset and howled across the ridge. There was nothing to shelter us, and we experienced the full force of its bitter fury. There must have been at least 60° of frost that night.

Owing to the wind we were unable to leave until 9 A.M. the next morning. We climbed on two ropes, Hoerlin and Schneider on one, Wood Johnson and myself on the other. Traversing the little peak we found ourselves on a steep ice-ridge, considerably more difficult than, say, the summit ridge of the Mönch; all were wearing crampons. Hoerlin and Schneider were soon far ahead, for this was Wood Johnson's first experience with crampons, but it is only fair to say that he climbed safely and efficiently. Without crampons we should have had hours of cutting, for the icy snow was of that texture into which crampon spikes bite, but into which it is impossible to kick steps. Below the col the angle was so steep that steps were necessary all the way to the bergschrund. Schneider led with his usual skill, and found an excellent bridge over the latter. In spite of the fact that he had to cut all the steps, he and Hoerlin were an hour ahead when Wood Johnson and I got to the glacier.

The glacier was practically uncrevassed, and a rope was unnecessary. Soon I noticed that Wood Johnson was going very badly, he said that he was too tired to go farther, and asked me to proceed; he added he would sit in the sun and await my return. I had no scruples about going on, because

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I was leaving him in a perfectly safe place. The day was perfect and the sun blazingly hot, also I should be able to see him the whole way to the summit. Naturally, I supposed his fatigue due to altitude; had I known that he was to be taken ill later, there would, of course, have been no question of continuing. Accordingly, I hurried after Hoerlin and Schneider, now well over an hour ahead. Hurrying at high altitudes is not to be recommended, and though I got within 100 yds. of them I could go no farther, and sat down feeling very tired. It was not until half an hour later that I felt fit enough to carry on. Then I went slowly, for one finds in the Himalaya that once one gets tired or exhausted at an altitude of over 20,000 ft., it is difficult to recuperate.

The route lay up a steepish couloir, and then up some slabby tile-like limestone rocks, of a type similar, I should imagine, to those on Everest. Climbing was technically easy, yet a slip would be hard to stop. I reached a height of about 23,000 ft.; there I sat down, and was forced to realize with some bitterness that if I went on I should most certainly be benighted. There was no alternative save retreat.

On rejoining Wood Johnson I was shocked to find he was ill. He had actually lain unconscious on the snow for some time. His illness had been brought on, apparently, by a stomach seizure. It is only just to add that he had worked himself almost to death on the transport of the expedition, for since the departure of Colonel Tobin the work had devolved upon him. The problem was to get him back over the ice ridge to the camp. The porters would be useless, and Schneider and Hoerlin would be very tired on their return. As we sat in the snow considering the situation, two minute dots passed slowly up the last snow-slope of the Jonsong Peak. A few minutes later they were silhouetted on the summit, barely distinguishable against the deep blue sky. Theirs had been a great effort, they had climbed over 3000 ft. in 6 hrs., possibly the fastest going ever accomplished at that height—unless Longstaff went faster on Trisul, or Mummery on Nanga Parbat?

I made Wood Johnson eat some chocolate. This put new life into him, and he decided to make the effort to climb back to camp. That effort is one I shall not easily forget; had he been by himself I believe that he would have let himself go, and fallen fainting from his steps, but because he was roped to a companion he determined not to slip. Had he done so I could not have held him, for most of the work consisted in traversing ice-slopes where it was seldom possible to drive the

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Photo, F. S. Smythe.

Unsurveyed country of N.E. Nepal
from Summit of Jonsong Peak.

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Photo, F. S. Smythe.

Jonsong Peak (left), Jonsong La, Tent Peak
from Camp 1 on Kangchenjunga Glacier.

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axe in sufficiently to make a firm belay for the rope. Slowly rope-length by rope-length we progressed. The declining sun flamed and died. Around us the snow glinted with a cold, deathly pallor. A furnace in bars of vivid scarlet spread behind Everest. Once there was a beautiful Brocken Spectre formed by our shadows silhouetted against the mist on the Lhonak side of the ridge, but we had little time to admire this. A bitter wind got up: howling across the ridge, it lashed us with stinging particles of snow, numbing our hands and feet. As I took in the frost-stiffened rope for the last time, Schneider and Hoerlin had already returned, and were watching us in the gloom from the glacier beneath.

At last we found ourselves on the easy ridge beyond the little peak. There our servants came rushing forth to meet us, and Wood Johnson collapsed; he could barely stagger. His effort had been great, and one of which any mountaineer might be proud. The traverse of the ridge cannot have taken less than 3 hrs. In our tents our servants massaged our hands and feet until circulation returned agonizingly. We both escaped frost-bite, but only just.

Schneider and Hoerlin were back late, and they were very tired. Food and fuel had come up, we had a right good dinner and, when it had finished, a bottle of rum circulated steadily between the two tents.

Wood Johnson was still very weak the next day, and fainted once on the descent. The wade across the glacier morass above Camp I was a trial to him, and it was with great relief that we got back to that camp. There we found Professor Dyhrenfurth, Kurz and Wieland, who had also come up to climb the Jonsong Peak. Schneider, Hoerlin and Wood Johnson intended going down to the base camp on the next day for a rest, and then Schneider and Hoerlin were to cross on to the Choten Nyima La and, if possible, ascend the Dodang Peak, 22,700 ft., the highest point of the Dodang Nyima Range. Although in need of a rest myself, I decided to accompany Dyhrenfurth's party next day.

We left in perfect weather, and ascended direct to a point just below Camp III, where camp was pitched on a snowy shelf. This was a double march, and the effect upon the porters was unfortunate. The same day Kurz and I prospected a route direct down from the ridge to the glacier which would avoid the long traverse of the ice ridge, for we hoped to make a camp at the head of the glacier, whence the peak could be climbed more comfortably in a day.

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The night was a windy one, and the wind did not drop the next morning. The porters, as a result of the hard day's march, were sullen and dispirited, and refused to start. All we could do was to move camp a little higher to a more sheltered place in the lee of an ice-bulge. Professor Dyhrenfurth and Wieland, meanwhile, started to cut a staircase down the ice-slopes to the glacier.

The following morning dawned fine and calm. Wieland and I went ahead, and with Kurz enlarging the steps behind us, completed the staircase after several hours of hard work. While investigating a possible route over the bergschrund I managed to sprain my wrist. The snow bridge gave way, and I swung across the bergschrund holding on to my ice-axe with my left hand and severely wrenching the wrist. It was not until evening that we reached the head of the glacier. Once more with nightfall a high wind arose. It was bitterly cold, and impossible to find any spot sheltered from its onslaught, though we camped on the lee side of the col at the head of the glacier. It seemed to pour down almost vertically on our camp.

On the following morning the wind was still high, and it was not until 9 A.M. that it moderated sufficiently to enable us to start. It was still blowing in vicious gusts, and we wore every stitch of spare clothing. Oxygen had been brought up for use in the tents. I did not use it myself, as I wanted to see how I climbed under my own steam. The couloir, in which steps had been kicked previously, was now hard blown and icy. I led, cutting steps. On the slabs above, the wind was horrible, it roared across in fierce gusts, beating us with icy spindrift.

We took with us our servants. Although the porters of the first party had been sent down to the base camp for a rest, Nemu was anxious to accompany me. All through the expedition he had been a wonderful servant. He was an old soldier and, like most old soldiers, was an expert in the gentle art of 'scrounging,' but he never scrounged from me. If I broke anything, or missed anything, a replica was sure to appear the following day, and if I heard other members of the expedition grumbling, I said nothing. I broke four thermos flasks on the expedition, and at the end I was one of the few that still had one. The strain had told on Nemu, and though he gallantly struggled on for as long as he could, it was quite obvious that he had to go back. But he did not *want* to return; it was I who *forced* him to.

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On the ridge we expected to find the wind worse, but curiously enough the higher we got the less violent it became, until finally climbing became almost pleasant. It was hard work, though. The rock was very rotten; the upper part of the Jonsong Peak is one festering sore of shaly limestone. We climbed unroped, for a rope was of little use, and the two remaining porters, Lewa and Tsinabo, were climbing if anything better than we were. At length we were clear of the interminable rocks, reaching a long slope of loose scree at about 24,000 ft. This would have delighted the heart of a roadmender, but to us was a trial.

I had already discovered that the secret of climbing at high altitudes is not so much physical as mental discipline. The men who will one day reach the summit of Everest will not be super-climbing athletes, they will be men capable of mental as well as physical effort, genuine philosophers at heart, capable of detaching their minds from the weariness of the flesh. After all, is not mountaineering a perfect blending of the physical with the spiritual?

My rucksack containing photographic apparatus seemed to get heavier and heavier, and more than once I considered abandoning it. Fortunately, I retained it. The scree petered out into a snow-slope. Kurz and Tsinabo were ahead. They plugged up it, and disappeared over a crest. I heard a faint shout. A minute or two later I mounted their steps and, putting my head over the edge, saw Kangchenjunga in all its splendour. In another second or two I stood on the summit grasping the hands of Kurz and Tsinabo.

The day was a wonderfully clear one. To the S. we could look for hundreds of miles across the cloudy pall of the monsoon that filled the valley with woolly *cumuli*. Although only a few miles away Kangchenjunga was smothered in new snow, indicating that the monsoon had already vented some of its rage upon it. Northwards, we could look over the brown plateaux of Tibet. There our view was limited only by the curvature of the earth. North-westwards, and an immense distance away, I should say at least 300 miles, two great snow peaks rose out of Tibet. Their direction was approximately in line with, but I think they must have been *beyond*, Lhasa. Only the upper parts were visible, their bases were concealed by the curvature of the earth. Though the tip of the little finger held at arm's length concealed them both, they somehow looked immense peaks. What are they? Seventy miles away to the W. rose Everest and Makalu. From our lower

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camps we had seen them, too, but between the lower ranges. Now we saw them in all their superb magnificence. Looking at Everest we realized to the full why the natives term it the 'Goddess Mother of the World.' The western face of Kangchenjunga was in full view. Had Mr. Freshfield seen it from the top of the Jonsong Peak, and not Pangperma, I cannot help thinking that he would have been emphatic on its impracticability from the Nepal side. From Pangperma it is much foreshortened, a fact we had already realized when climbing on it. Everything is much steeper than it looks. From the top of the Jonsong Peak the upper part is seen in its true proportions. I believe that the final 1500-ft.-high rock-pyramid will prove too much for many future expeditions.

Wieland was behind, his servant having also fallen out; as Kurz and I prepared to go he joined us. At the foot of the scree-slope I found a sunny corner sheltered from the wind, and there sat down, spending half an hour gazing on the marvellous panorama. Wieland joined me, and we descended together, meeting on the way Dyhrenfurth and Lewa, who were at least an hour from the summit. I noticed that the former was wearing the 'expedition' boots. We rattled downhill at an almost Alpine speed, and were back in camp sometime before sunset, in spite of the preliminary stepcutting in the couloir and wind. We had averaged nearly 500 ft. an hour uphill.

Professor Dyhrenfurth was very late, and we were anxious. With nightfall the wind rose again. We were just debating whether we should start out to search for him, when at 8.45 P.M. he arrived, very tired. His geological enthusiasm had carried him from the highest summit to the lower peak as well. As a result he had been much delayed. The moon had risen, but shone on the other side of the N.W. ridge; he and Lewa had to fight their way down in darkness through a *tourmente* of wind-driven snow. Dyhrenfurth is 44 years of age, and his ascent had been a fine effort.

One word as to the porters. Lewa and Tsinabo had climbed with the skill of first-class Alpine porters. The time cannot be far distant when, as has been suggested by General Bruce, a Corps of Himalayan Guides will be formed. Such men as Lewa, Nemu, Lobsang, Tsinabo, and others of our 'Tigers' should form a splendid nucleus.

The following day we descended to Camp I. As luck would have it the weather was perfect, with scarcely a zephyr of wind. The day after we descended to the base camp, which

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had been moved down into the Lhonak Valley, beneath the snout of the Lhonak Glacier.

There we found Wood Johnson, who was much better. The day after we arrived Schneider and Hoerlin came back, having ascended the Dodang Peak. With characteristic modesty they said very little about it, beyond the fact that they had had some of the worst step-cutting in their lives. The picks of their axes bore eloquent witness to this, for they were bent almost double.

Professor Dyhrenfurth was anxious to ascend the Lhonak Peak, the name he had given to the beautiful Weisshorn-like peak at the head of the Lhonak Glacier. Wood Johnson wished to return to his tea plantation, as his leave was soon due to expire. Frau Dyhrenfurth, Dr. Richter, Duvanel, and I decided to accompany him. In this we were influenced by the fact that the monsoon was obviously due to break on the head of the Lhonak Valley. It did so two days later, and the rest of the party were unable to carry out their programme.

We descended through country reminiscent of the Scottish Highlands, utilizing yaks for part of the distance. Two marches down the valley we ran into the monsoon, and though the weather was usually fine during the day, rain fell torrentially during the nights. The way had been well prepared by our own porters, sent down in advance, and by the local men from Lachen, who had constructed a bridge across the torrent of the Zemu Chu. So at last we re-entered the dense tropical forest of the Teesta Valley, where we crossed innumerable landslides brought down by the rains.

At Lachen we were hospitably greeted by two lady missionaries, and at Gangtok by the Maharajah and Maharanee of Sikkim and Mr. and Mrs. Dudley. So at last, on June 22, 10 days after leaving the base camp, we arrived as we had left Darjeeling in a fleet of 'Austin Seven' motor cars.

[Some notes on the weather experienced on Kangchenjunga and in Sikkim during the earlier expeditions may be of interest:—

KANGCHENJUNGA:

Freshfield	1899	September/ October	One great storm; but mostly good. Very cold in October.
Crowley	1905	August/ September	Mists and snow.

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KABRU:			
Rubenson	1907	October	Extreme cold. Clear.
N. SIKKIM, etc.:			
Kellas	1910	May/July	Not good.
Kellas	1911	April	Heavy snowfalls. Hot sun.
		May	S. winds and snowfalls. More snow below and less snow above 19,000 ft. in May as compared with August.
		June	Weather broken, turning worse towards the end of the month. Continuous mists.
Kellas	1912	July	Weather good on the whole. Mists.
		August	In August southern ranges in Sikkim may be practically unassailable.
KANGCHENJUNGA:			
Raeburn	1920	July	Wet.
		August	Generally fine with good visibility.
		September	Cold, wet and misty. Snowfalls down to 13,500 ft. Improvement later.
		October	Fair and cold.

Editor, 'A.J.']

EGYPTIAN MOUNTAINS.

BY G. W. MURRAY.

THERE is a widespread impression shared by residents in Egypt, as well as by those at home, that the deserts of Egypt are flat sandy expanses dotted with rare oases—in fact, that the only climbing possible is on the larger Pyramids. Those who campaigned in the Libyan Desert or Northern Sinai during the late war had plenty of experiences to confirm

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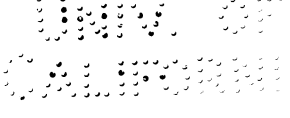

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Photo, G. W. Murray.

BERENICE'S BODKIN.

Photo, Mrs. G. W. Murray.

Eastern Aiguilles of UMM SHOMER.

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the above view. Indeed an old gentleman, whom I met at an informal dinner not so long ago, declared so roundly that 'there were no mountains in Egypt' that he provoked me into writing this article.

The grand Sinai mountains, rising abruptly from sea-level to over 8000 ft., are in Egyptian territory, while an equally fine chain, the 'African Cordillera' as the great explorer Schweinfurth called it, forms the watershed between the Nile and the Red Sea. Such pigmies cannot be compared to the Alps, but Gebel Umm Shomer or the Faraid peaks would certainly give rise to considerable admiration and comment if they were removed to Wales or the Lake District.

East of the Nile the Egyptian desert is almost rainless and without population: even in the mountains there is little game and few Bedouin. The hunters follow the ibex; where there are no ibex there is no climbing, and consequently even at the present day several of the peaks are still virgin summits, so far as anyone knows.

But from the earliest times they have been good sea-marks, and they are all set down with their correct latitudes in Ptolemy's 'Geography.'

The 'red mountain that dazzled all beholders' must be an early legend of snow on Gebel Shayib;[1] the 'mountain of Ajax' is Gebel Hamrawein, the 'emerald mountain' is Gebel Zabara, Pentadactylus is Gebel Faraid, Prionotus the Elba-Asotriba group, but the Satyrorum Mons (or 'wilderness of monkeys'), lat. 19°, and Monodactylus, lat. 18°, must be left to the Sudan Surveys to identify.

The first climbing in Egypt was done by James Burton, who climbed the northernmost of the Red Sea hills, Gebel Gharib (1751 m. = 5745 ft.), in 1823, after an unsuccessful attempt the previous year. It has not been climbed since.

Another early traveller was Georg Schweinfurth, who, in 1865, cruised down from Qusein to Suakin in a dhow and made various excursions inland. He climbed the second summit of Gebel Abu Tiur (1098 m. = 3602 ft.), near Qusein, which he described 'as a worthy pendant to my ascent of the Gross Glockner'; lost his way on Pentadactylus (1366 m. = 4482 ft.), climbed the second summit of Gebel Shellal (1409 m. = 4623 ft.), and was turned back by the Bisharin from an attempt

[1] Floyer in 1891 saw Shayib covered with snow and compared it to the Matterhorn. 'Further Routes in the Eastern Desert of Egypt,' *G.J.*, 1893.

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on Gebel Asotriba (2216 m. = 7270 ft.) just inside the Sudan frontier. They thought his botanizing savoured too much of witchcraft.

To avoid further reference to these peaks, I may say that they are all easy, that they were all climbed by me during the survey of the Red Sea coast 1923–26, and that the heights given above refer to the highest points.

To continue our catalogue of the Red Sea hills, S. from Gebel Gharib we have Gebel Umm Harba, 'Mother of Spears' (1714 m. = 5623 ft.), attacked by Dr. W. F. Hume in 1898. He found it easy till he came to the two little gendarmes on the summit from which it takes its name. The red granite of Egypt weathers spheroidally—that is, it peels off in great sheets as the skin from one's nose. The rock beneath is left smooth and without handholds. The Bedouin walk on this surface with bare feet where rubbers and *Kletterschuhe* slip, and it becomes necessary for civilized man to discard footgear and follow as best he may their example. Only too often on mountains of this kind the only problem is a huge polished summit-block. So Hume found on Umm Harba in 1898, where he was defeated 50 ft. from the summit of the mountain.

South of Umm Harba comes the easy Gebel Dukhkhan (1662 m. = 5453 ft.), climbed no doubt by the ancient Romans, whose porphyry quarries lie hid in its folds. Then the unclimbed peaks of the Qattar-Umm Disi group (highest point Gebel Qattar, 1963 m. = 6440 ft.), a mass of red horns and domes, terrifying from a distance.

Next, in lat. 27°, another red granite monster, Gebel Shayib (2181 m. = 7155 ft.), the highest in Egypt. Tradition asserts that, fifty years ago, the first ascent was made by a Bedouin girl, Selima, searching for a strayed half-wit sister. Selima certainly got somewhere near to the top, for, to her great surprise, she saw palm trees in the Nile Valley 70 miles away across the desert. She must also have seen the peaks of Sinai and Arabia across the blue Red Sea. But the summit-rock may have baffled her—it gave us some trouble on April 24, 1923, when four Arabs and myself, to say nothing of a dog, conquered Shayib. Ali Kheir, a desert guide (not the same thing as a mountain guide), was the first man up.

Just S. of Shayib is Gebel Umm Anab (1766 m. = 5792 ft.), unclimbed and probably easy. Both these peaks can be reached by car in a day from the Anglo-Egyptian Oilfields at Hurghada. Southwards again, there are no mountains exceeding 5000 ft. for 80 miles till we come to the fine Hamata

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group in lat. 24° 15′. The highest point, El Samak el Mulak (1978 m. = 6490 ft.), was climbed by Dr. John Ball of the Egyptian Geological Survey in 1905, who found it very easy. Some of the lesser peaks look very wild and attractive. Dr. Ball had much more trouble with Gebel Abu Hammamid (1747 m. = 5705 ft.), at the back of Hamata, and says [2]: 'The ascent, which occupied four hours, was free from difficulty till within about one hundred metres of the top, but the last portion was extremely steep, and was only negotiated with considerable trouble; it represents pretty nearly the limit of possibility in getting instruments up difficult places.' The top he found to be a ridge 1 m. wide, and there he had to bivouac for 8 days and nights before the weather cleared sufficiently for him to get his round of angles. However, Ball got used to this sort of thing, for he spent 6 days on the nasty little Gebel Fereyid, 10 on Gebel Elba, and 21 on Gebel Gerf (1419 m. = 4645 ft.). Even now his porters speak feelingly of that season.

Ball also climbed Gebel Abu Gurdi (1562 m. = 5125 ft.) to the S.—an easy mountain. It fell to me to carry on the good work.

The next group to the S., that of Gebel Faraid, contains the most remarkable peaks in Egypt. The monolith of Berenice's Bodkin (1232 m. = 4042 ft.) resembles the Aiguille du Géant, and seems unclimbable by normal methods. On one of the foothills of Pentadactylus is a remarkable flying buttress, a pure piece of Rider Haggard, which from a distance looks like a tea-cup handle. Herein those who have graduated in climbing overhangs may proceed to an honours course in looping the loop.

Having climbed Pentadactylus and looked at the Bodkin, we went on next season to the picturesque Elba mountains in lat. 22° on the political frontier between Egypt and the Sudan. They present a refreshing contrast to the utter desolation of the sea and desert around them. Their lower slopes and valleys are covered with luxuriant vegetation, Abyssinian in type, including the dragon's-blood tree and the quaint candelabra-shaped euphorbia.

On our first attempt at Asotriba we got lost, and ended up on the summit of some unknown lesser peak in a bitterly cold fog; but on January 12, 1926, we succeeded after bivouacking very high up round a huge fire of dead-wood. From the summit

[2] J. Ball, *Geography and Geology of S.E. Egypt*, p. 176.

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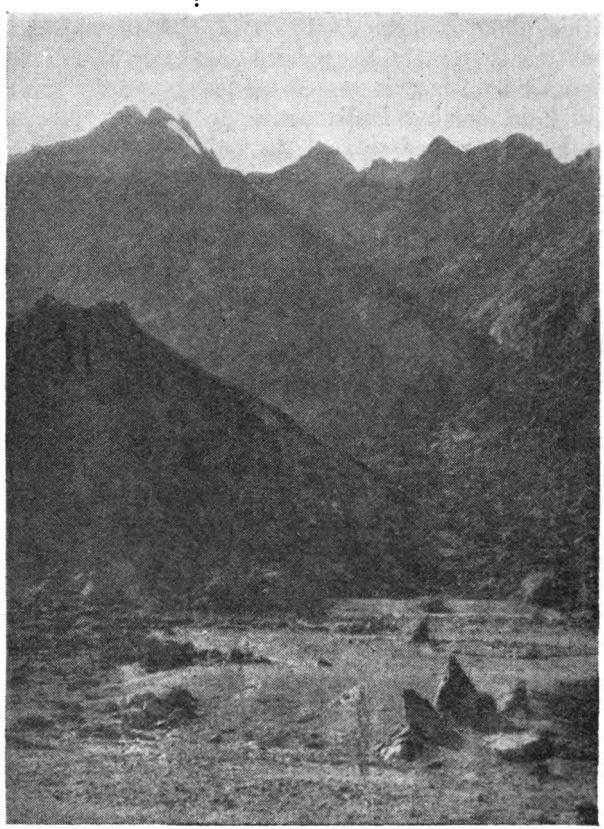
we dislodged a herd of at least fifty ibex, who stampeded thousands of feet down into the Sudan. On January 19 we climbed Gebel Shellal (1409 m. = 4623 ft.) and saw many more ibex. Both these peaks were very easy, but on January 22 we (Ali Kheir and self) were totally defeated 50 ft. from the



Photo, G. W. Murray.]

THE FLYING BUTTRESS FROM A DISTANCE.

summit of Gebel Shendodai (1529 m. = 5016 ft.), the 'Castle Hill' of the Admiralty Chart. Although we did not succeed in finding a route, the next man will probably get up and wonder why we stuck—lower down the mountain is only a walk. Gebel Hanquf, northern peak (1397 m. = 4583 ft.), gave us an hour's good climbing near the top, and it took us

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2 days to find the way up Gebel Shendib (1912 m. = 6273 ft.). Of course, when found it turned out to be ridiculously easy. The peak had previously been cairned by one of Dr. Ball's guides. Elba High Peak provided us with two little gendarmes, the higher one not unlike the 'Red Gendarme' of the Petite Dent de Veisivi, but with this distinction, that all the holds were rotten. The actual summit was as sharp as the top of Cleopatra's Needle, white and stinking with bird-droppings. I felt that here I should have stood erect and balanced an ice-axe on my snout, but in real life I squatted comfortably, more like a toad than a performing dog.

This was a first ascent, since Ball had used a lesser summit for his theodolite work. There are many legends about Gebel Elba. The Bisharin relate that somewhere on the mountain are two caves from which a continual stream or spring issues, while the rocks below are green with vegetation. These they call the Nostrils of Elba, and a venturesome hunter who parked a dead ibex in one nostril while he pursued its comrades, found on his return that the mountain had sneezed the corpse to the other side of the ravine. I could find no one to lead me to the spot; but on our ascent we found an ibex, dead and dried up, swinging by the hind leg in a tree. It had missed its footing while grazing: not even ibex are infallible.

In 1929 the state of the leave roster did not permit of 'a vision of the Valais in the coming of July,' but, with some misgivings about heat, we arranged to take six weeks' leave in Sinai in May and early June.

We started [3] from Suez in a ship crammed full of Mecca pilgrims, whose muezzins called to prayer as the sun sank, and reached the quarantine port of Tor next morning. Arrangements for transport were quickly made, and we left with two soldiers, eleven baggage and two riding camels, and a 'guide' next morning, May-day, for the hills. The camels and guide cost twelve piastres (half a crown) each daily—the soldiers were supplied free. After a stifling day across the coastal plain, we camped the same evening beside running water in the gorge of Wadi Isla.

Next day we did a training walk to a conspicuous gendarme on the N. of the wadi, marked 1802 m. on the map. The walk was uninteresting, save that we passed the corpse of a sheep killed by a leopard, and ourselves killed a horned viper on the way. It was frightfully hot, and we lost weight rapidly.

[3] On this expedition I was accompanied by my wife.

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The actual summit proved to be a cracked boulder some 50 ft. high, and the base of the fissure not unlike the 'Mummery' crack. I cannot get into either unaided, so 1802 m. remains a virgin peak. A hundred yards farther on we consoled ourselves by climbing something a little higher, say 1804 m., and photographing the S. face of Gebel Umm Shomer.

On May 4 we moved up to Wadi Thebt and camped therein, rather too far from the base of Gebel Thebt, to allow our caravan to take the very difficult Hamr Pass over the main watershed next day. While they went on, we started at 5 A.M. and surmounted Gebel Thebt (2449 m. = 8035 ft.), which had not been climbed by a European since the Rev. F. W. Holland in the 'sixties of last century. The way up was easy and the view magnificent. The two dark-blue gulfs of Suez and Akaba met and merged in the broad, shining Red Sea, the highway to the Orient. Beyond on either side lay the misty mountain-tops of Egypt and Midian. Before us three[4] 'unclimbed' peaks of the watershed, two Yithmids and one Haleifia, separated us from Sabbagh[5] (2266 m. = 7423 ft.), the most southerly of the Sinai '2000-metres.'

It was real Red Sea summer weather, and we looked down into a near foreground of rusty red, tiger-striped hills, as blackbeetles tipped out on the kitchen-fire might look on hot black summits, red-hot ridges and incandescent ravines. It was impossible to believe that when Dr. W. F. Hume and H. G. Skill climbed Sabbagh (December 31, 1898) their porters suffered from frost-bite and snow-blindness.

Our way now lay down a steep buttress to the col between Gebel Thebt and the northern Gebel Yithmid. On uncoiling the rope, which we had not used on the ascent, our 'guide,' a local hunter, exclaimed scornfully 'A hundred ropes won't get you down there.' Followed by him and two Ababda porters from Egypt, my wife and I commenced the descent. The Arabs were so shy of the rope that we contented ourselves with handing each other an end now and then on the steep and easy rocks, and came down in a little over an hour, to the 'guide's' great astonishment, to the col. The rock was a good dark-red dyke rock.

The northern Yithmid looked very easy and close, but thirst drove us down the boulder-strewn gullies of Wadi

[4] All, no doubt, have been climbed by ibex-hunters.

[5] Old maps give Sabbagh 1000 ft. too high.

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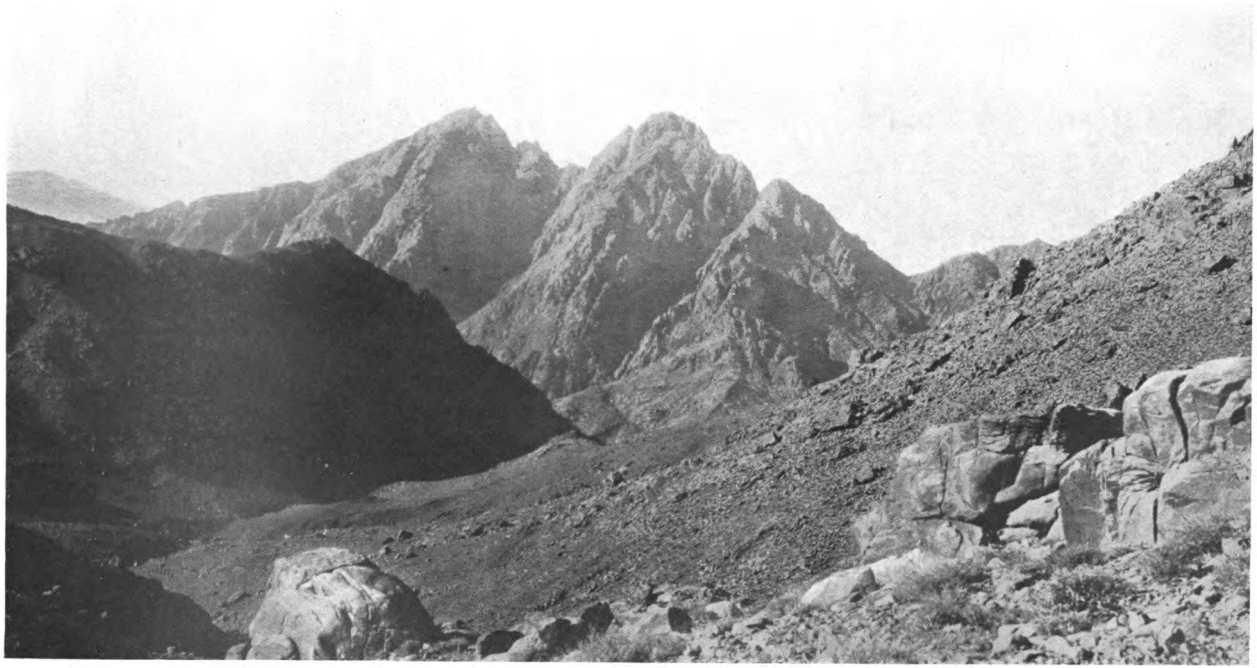

Photo, G. W. Murray.

GEBEL RIMHAN.

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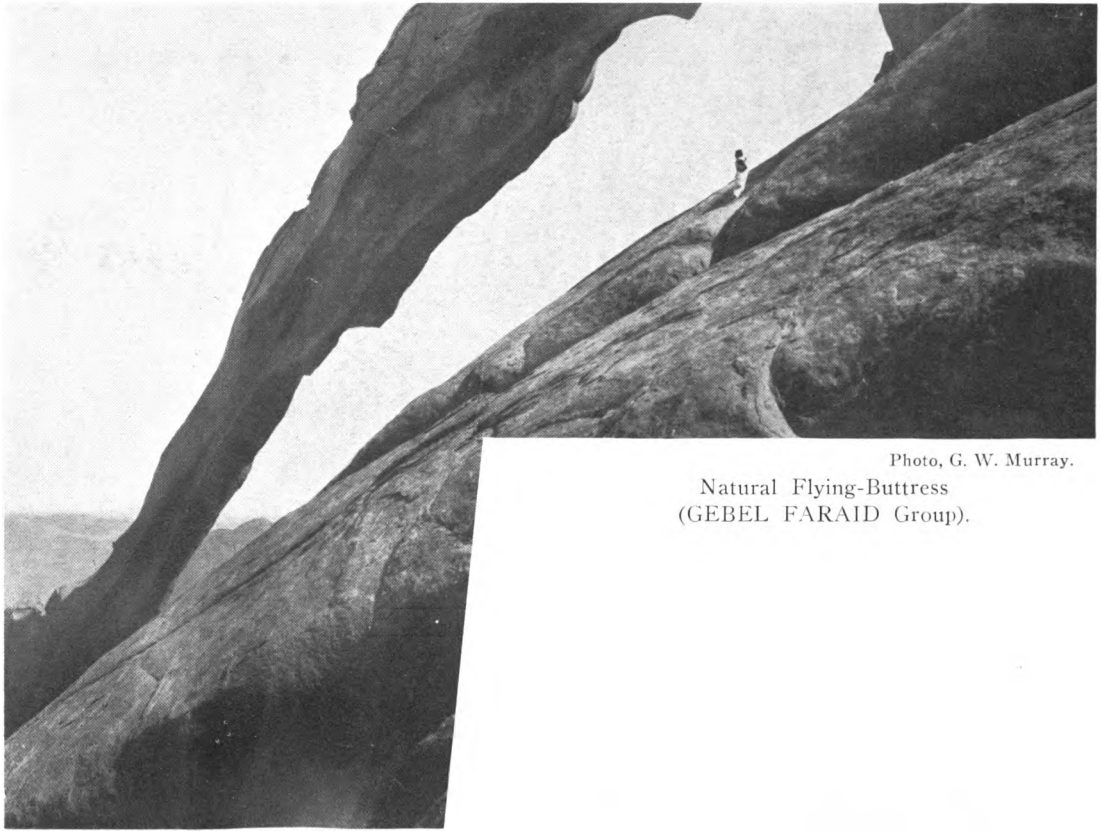

Photo, G. W. Murray.

Natural Flying-Buttress
(GEBEL FARAID Group).

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Yithmid to water at Moiyet Lulia, the 'Pearl Spring,' about 4 P.M. Here our riding camels met us, and 1½ hours later we were in camp at the junction of Wadi Yithmid and Wadi Hamr. There were fine steep mountains near the camp, but wishing to avoid red granite at all costs, we retraced on foot all those weary miles up Wadi Yithmid next day, and ascended the next col to the S. between the two Yithmid peaks with a view to bagging both.

Before starting we made two mistakes: we got rid of our 'guide,' telling him to look for ibex with my rifle, and, despising our adversary, we left our rope behind. Burdened with water-bottles, my wife and I, with one porter, Mursi Abdu, trudged for 5 hours over scree to the col. Hence up the N. arête of the southern and higher Gebel Yithmid was a nice little climb of about Egginergrat quality. It took an hour over steep and good dyke rock, but there was a nasty gully full of loose scree at the start. This route was new and declared impossible by the ibex-hunter, who said 'we always follow the S. arête.' Returning to the col at 2 P.M., we were again too thirsty to tackle the northern Yithmid. Also the soles were gone from both my rubbers, and it was a lame leader that brought his party down to the Pearl Spring at sunset. Here we found three men and three camels waiting about 150 yards above the water, and about 30 yards from a fair-sized leopard crouched under a boulder. It was a sort of inverted Zoo, because although they had not noticed him, he had been watching them all the afternoon. The hunter was said to have just gone down to the spring with my rifle. I sent the whole party after him and waited. Such waits seem long to the unarmed. But in 5 minutes a boy came back and said the hunter had gone on to camp 5 miles away. It was pretty dark now, so I said 'Good-night, pussy,' and left. (The Sinai leopard is small, and feeds chiefly on hyraxes and ibex. The Arabs often offer skins for sale, but only one has been shot by a European, so far as I know.)

Moiyet Lulia would make a good bivouac for hunters or mountaineers.

After visiting the Gulf of Akaba we returned to the Monastery of St. Catherine and walked up Gebel Katherina to see the sun rise over Arabia.

On May 20 we left for Zeytuma, and next day started for Gebel Umm Shomer. On the way we had a magnificent view of the unclimbed Gebel Rimhan, the third mountain in Sinai (2452 m. = 8045 ft.). Arrived at the col N. of Umm Shomer,

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where there is a good spring, we put down loads for a bivouac. This col is about 7000 ft., so we hoped for a cool night.

The same morning, avoiding the usual way up the big central gully, we started a new route up the obvious right-hand couloir (partly filled with snow in the plate, taken in 1921), and at the point where the snow ends, attempted to climb up on to the W. arête. This attempt failed, and we returned to our gully and became involved in a struggle with a chockstone. This was a real 'severe,' and I surrendered the lead to Mursi Abdu, whose prehensile toes helped him over the difficulty. After this we were soon on top and admiring the names of the earliest known conquerors, 'T. E. Yorke, T. J. Prout, 1862,' cut on the riven boulder which is the summit. Long ago, in 1816, Burckhardt turned back from the saddle between the two summits though he had just climbed a more difficult step on Gebel Serbal. Thence we crossed to the lower E. summit, had great fun climbing all the various boulders to its top, descending by a new but not difficult route to the central gully. And so to bed. The four summits shown in the plate watched over us, and for want of local names we called them Matthew, Mark, Luke and John.

Next day we essayed the conquest of the two aiguilles, Matthew and Mark, which guard Umm Shomer on the E. Scrambling up a great gully, filled with snow, we reached the top of Matthew without great trouble, and descended into the couloir between the two. Thence to the secondary summit of Mark was easy, but between it and the top was a sheer smooth drop; progress seemed blocked by a boulder, whose top it would be necessary to lassoo. Beyond that again the way lay easy to the summit. We gave this best, and, returning to the couloir between the two aiguilles, attempted another route which soon became too steep. Finally, in a furious temper, we abandoned Mark and attempted to descend the couloir just mentioned. This too we found impossible, and we were obliged to retrace our footsteps to the summit of Matthew and down the 'snow-filled' gully by which we had come up. We then picked up our bivouac, and with heavy hearts made our way over the ridge of Abu Shagara to our main camp at Zeytuna.

Our next Sinai mountain was Gebel Abu Qadis [6] (1981 m. = 6499 ft.), an eastern outlier of the Serbal range and first climbed on February 25, 1894, by Mr. E. N. Buxton and the Misses H. M. and T. Buxton. On May 26 we traversed it from E. to

[6] Beidat Takha on the old Ordnance Survey map.

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W., and found it easy, except for one awkward step with small holds on the way down. Probably this could be avoided—new-comers' routes can usually be improved upon—and we were all fresh to the mountain. From the top we saw the whole S. face of Serbal sloping gently down till it fell, at the last steeply, into the Wadi Sigillya. It seemed an anti-climax after our view of the magnificent northern façade. We went on to the Wadi Aleyat, and on May 29 ascended it by the usual route over awkward scree, and came down the same way. Next day, May 30, we went up again by a more direct route with only one awkward step, and met three Greek monks from the Monastery of St. Catherine, about half an hour below the top. They had come up the usual way, and though two rested at the little spring beside the almond tree, the *οἰκονόμος* continued with us to the summit. Here we shivered in an icy breeze, a complete change from the lower slopes. We returned and lunched at the almond tree, which would make an excellent bivouac for anyone shooting or climbing in the Serbal range. All the main peaks are easy, but there are plenty of attractive-looking minor needles and new routes. As to ibex, it is at the moment a reserve; and judging solely from a short visit, these creatures are far scarcer here than in the Red Sea Province of the Sudan.

We returned by a more direct gully with a notable white-stained waterfall (dry) on its E. side: though the priests made rather heavy weather of this, it is far the quickest way of ascending and descending the mountain.

Our Sinai holiday continued with a visit to the abandoned turquoise mines of Maghara, and my fourth ascent of Gebel Ateirtir el Dahami, which frowns above them. It ended with a visit to the temple of Sarabit el Khadim, and two scrambles on the very rotten sandstone of Gebel Umm Riglein (S. peak, June 6; N. peak, June 8). The Rev. F. W. Holland's initials were carved on the northern summit.

So we left Sinai with three 'first ascents for Europeans,' the S. peak of Yithmid, 'Matthew' the easternmost needle of Umm Shomer, and Gebel Abu Qadis. Our routes were really new in the descent of Gebel Thebt by the S. arête, the ascent of Gebel Yithmid (S. peak) by the N. arête, and the W. couloir on Umm Shomer. The weather was too hot for strenuous climbing: in winter we should have done much more.

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Bietschhorn.

By HANS LAUPER.

II. *The East—or Baltschieder—Face.*

THE history of the ascents by the E. face has been treated at considerable length in this Journal (*cf.* 'A.J.' **10,** 20–23; **23,** 651; **24,** 87–92; **25,** 641–644; **28,** 305–306). The origin of most of these papers was a statement by Messrs. C. T. Dent and J. Oakley Maund to the effect that their party on July 25, 1878, had climbed the Bietschhorn by the S.E. arête. As has since been proved, mainly by the Rev. W. A. B. Coolidge [*Climbers' Guide* to the Bernese Oberland, Vol. I, Part II (1910), pp. 88–89] and by Captain Farrar ('A.J.' **25,** 641–644; **28,** 305–306), the line of ascent of Messrs. C. T. Dent and J. Oakley Maund in 1878 was *not* by the S.E. arête, but by the perfectly distinct E. spur.

This E. spur runs from the highest point of the Bietschhorn down to the *Äusserer Baltschiederfirn*, disappearing into the glacier just W. of Point 3098 m. of the Siegfried map. This E. spur, about 2500 ft. high, has been comparatively neglected by climbers, although it provides (at least to my mind) much better climbing than the usual W. arête. In previous years this may have been partly due to the absence of suitable night quarters on the E. side of the Bietschhorn, but to-day there stands a very comfortable hut of the S.A.C., the *Baltschieder-Klause*, 2793 m. (cf. *Die Clubhütten des Schweizer Alpen-Club im Jahre 1927*, No. 32), at the Jaegithierweidli above, N. of the confluence of the *Äusserer* with the *Innerer Baltschiederfirn*. Apart from serving as a base for several fine expeditions in the Baltschieder region, this hut now serves as a starting-point for the ascents of the Bietschhorn by the E. face.

The East Spur.

From the hut a little path leads N.E. over rough slabs reaching the *Äusserer Baltschiederfirn* in the neighbourhood of Point 2888 m. of the Siegfried map. Bearing N. to avoid the icefall, this glacier is crossed to the lower end of the E. spur (W. of Point 3098 m., *Siegfried*), which is best gained from the N. just where its rocks plunge down into the snows of the

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Photo, E. Gyger.

BIETSCHHORN, E. Face and N. (Snow) Arête.

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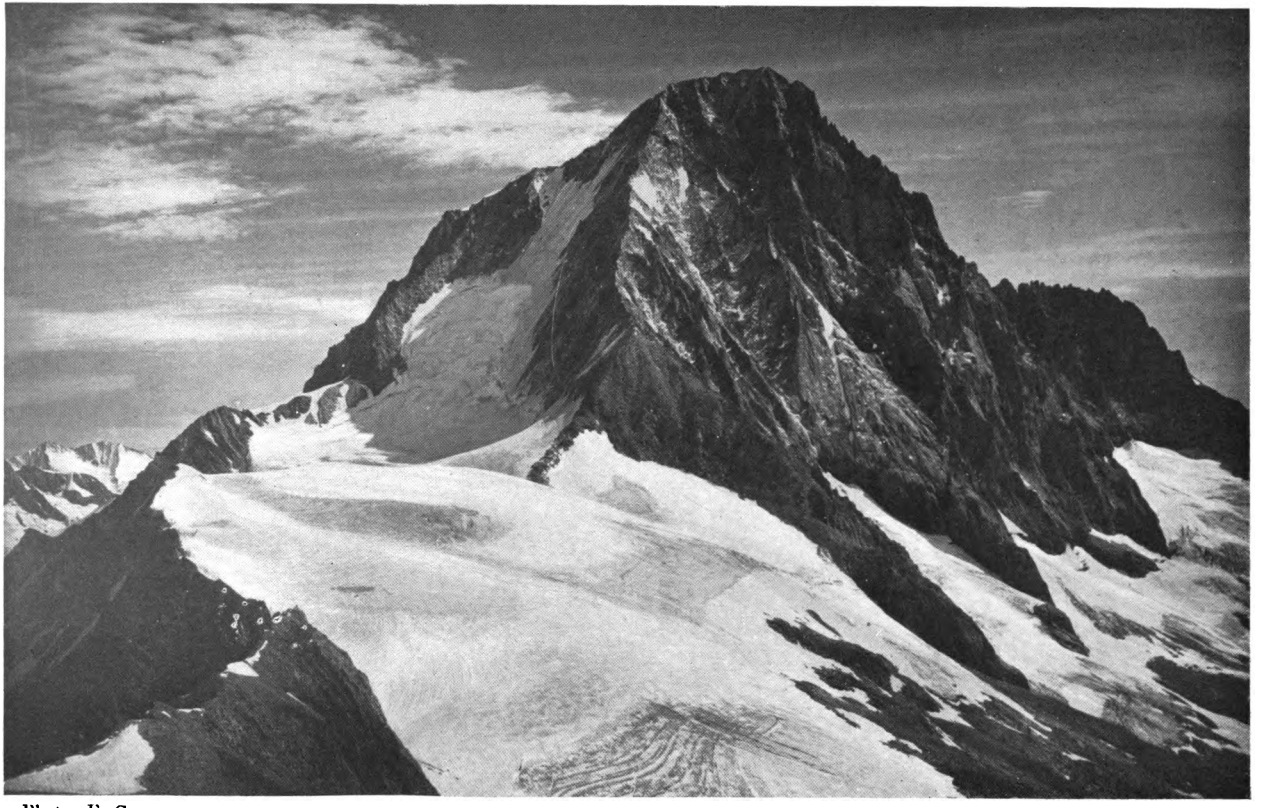

Photo, E. Gyger.

BIETSCHHORN, W. Arête and part of S. Face.

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glacier. The broken rocks are easily climbed to a level snow crest, whence a gendarme has to be climbed or turned on the N. slope of its base. Thus the E. spur is reached where it becomes quite steep. The best plan is to adhere to the crest throughout. The difficulties of the climb are considerable, but they diminish as the summit is approached. The spur leads straight up to the highest point of the Bietschhorn (6–8 hrs. from the Baltschieder hut). This is a fine expedition and quite free from the danger of falling stones.

The first party to climb the E. spur (Messrs. C. T. Dent and J. Oakley Maund in 1878) ascended from the glacier to the shallow couloir N. of the E. spur (see sketch). They found this dangerous, as was to be expected, and immediately bore away to the right, S., on to a rib which brought them up to the crest of the E. spur. This way may be a short cut when descending the E. spur provided that conditions are perfect; and it was taken by Dr. A. Scabell's party on August 1, 1911 ('A.J.' **28**, 305), and by my party on September 5, 1919. We had left the summit at 9.50 A.M. and reached the glacier below the bergschrund at 3.30 P.M., going very slowly. On July 22, 1925, I came down the E. spur again, this time with W. Richardet, A.A.C.B., following the E. spur to its end, which is more convenient. We had ascended the Bietschhorn by the W. arête in 4 hrs. from the Bietschhorn hut, and descended the E. spur in 4 hrs. 50 min. On both these occasions we returned to the Bietschhorn hut by way of the Baltschiederjoch.

The E. spur can also be gained by the route of Herr von Kuffner's party (1892). In this case the ice-bank between the foot of the E. spur and Point 3098 m. is crossed to the bay, enclosed by the E. spur and the S.E. arête. The spur is then reached over its southern flank, but, to my mind, this is no improvement on the ordinary route.

The East Ridge.

North of the E. spur there is a well-defined rock rib which was climbed by Mr. James Alexander with Oskar Supersaxo on September 2, 1927. Supersaxo has kindly communicated the following details to me:—

The foot of the E. face of the Bietschhorn was reached as described above. After crossing the bergschrund, which gave no trouble, the above-mentioned party bore to the left, taking immediately to the rocks of the E. ridge. The crest of this

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was followed over loose and broken rocks up to the point where the ridge deviates slightly to the N. There the rocks were sound, but the climbing rather difficult, becoming easier as the summit approached. The highest point was reached in about 7 hrs. from the Baltschieder hut. The climb is described as a very fine expedition.

Supersaxo thinks that the more northerly ribs would also go, but most certainly would not be any improvement on the routes described in this paper.

III. *The North Arête.*

There are two ways of climbing the Bietschhorn by its N. arête: starting from the Bietschhorn hut on the Schafberg, one may cross the lower levels of the Nest and the Birch Glaciers and then ascend a broad snow-filled couloir to the gap S. of the Galen (3050 m.), whence a snow ridge leads up to the Baltschiederjoch (3–4 hrs. from the Bietschhorn hut). The Baltschiederjoch can also be gained from the Baltschieder hut in less than 3 hrs., but the approach to this hut, which stands at the S. foot of the Jaegihorn, by the wild Baltschiedertal is long and tiresome.

From the Baltschiederjoch moderate slopes lead up to a rocky spur giving access to a narrow snow crest over which the summit is reached. This ridge is often adorned with huge corniches which may render the ascent difficult as well as dangerous. The N. arête can also be approached from the Bietschhorn hut by a more direct course, which makes the détour to the Baltschiederjoch unnecessary. This course I took with my friend R. Wyss, A.A.C.B. (now with Mr. Visser in the Karakoram). On September 7, 1919, we left the Bietschhorn hut at 2.30 A.M. For once we both were glad to leave the little cabin, for it had been overcrowded to such an extent that Wyss had to put up with a bench as a bed and myself with half of the table, the other half of it being occupied by a guide. The Schafberg was too familiar ground to me to delay us, as it did others, judging from the lights wandering astray and the shouts asking for route directions.

From the level of the Schafberg we crossed the nearly level névé of the Bietsch and Nest Glaciers towards the N.E. to the rocky spur which runs down from Point 3712 m. of the N. arête to the Klein Nesthorn (3348 m.). The bergschrund did not give much trouble, neither did we find the rocks very difficult, although they are very unstable and their ascent

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Photo, Ad Astra-Aero.

BIETSCHHORN from 15,000 ft.

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demands a good deal of care. One does not climb up to the crest of this rocky spur until the N. arête is gained a few yards above Point 3712 m. From here we ascended the sharp and quite steep N. arête. At first we were able to advance on an outcrop of rocks on the W. side of the crest. But higher up these rocks disappeared beneath the snow and we followed the very edge of the ridge. I had all leisure to enjoy the sensational view down on both sides of the arête, because my companion took the lead, giving me at the same time a very fine demonstration in step-cutting. When at 8 A.M. we reached the northern summit and climbed over the few gendarmes to the highest point, I felt quite sorry that the pleasure had not lasted longer. We allowed ourselves nearly an hour's rest on the top, and then descended the W. arête in 3½ hrs. to the Bietschhorn hut.

IV. *A Winter Ascent of the Bietschhorn, by the W. Arête.*

The weather had been fine for about two weeks, and as there was every promise that it would so continue for some time longer, my friend Fritz Egger, A.A.C.B.,[1] and I made up our minds to try the Bietschhorn.

On January 25, 1918, we reached the Bietschhorn hut on the slopes of the Schafberg after 7 hrs.' strenuous walking from Wiler. We found the door snowed up to the roof and had to break a window in order to force an entrance. The sleeping-room was in comparatively good order, but half the kitchen was filled with snow. Nevertheless, we spent a comfortable night.

Next morning we left the hut at 4 A.M. by the magic light of a full moon. The snow in the vicinity of the hut was of a soft powdery nature and very deep, making our progress decidedly slow. But as we approached the steeper slopes of the Schafberg the snow became hard, and, kicking steps, we were able to ascend straight up. At 6.15 we reached the Schafberg, just before day broke.

It was 7 A.M. when we arrived at the foot of the W. arête of the Bietschhorn. The ascent of this ridge was at first quite easy. But where the ridge becomes steeper and quite narrow the deep powdery snow on the crest proved a great nuisance, necessitating the greatest caution in our movements. Only one could move at a time while the other paid out the rope,

[1] The first winter ascent of the Bietschhorn was made by Dr. H. Morgenthaler and G. Ghiardola, both members of the A.A.C.Z., on February 2, 1916.

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progress thus again becoming very slow. The cold was not excessive; indeed all day long there was not the slightest breath of wind. The climb was not exactly difficult, but required constant care, and, what was still more annoying, consumed time—very much time. The day was creeping on, and we were well into the afternoon with the summit still far above us. After about three-quarters of the arête had been surmounted the so-called 'Red Tower' came into view. This is a great conspicuous gendarme not very far from the junction of the W. and N. arêtes. The base of this gendarme was reached after a long traverse on the S. face. Here we met with hard tough ice, hidden under a treacherous layer of snow, where step-cutting proved an arduous and difficult task. It was necessary also to make the steps very deep and reliable so as to facilitate our descent. The approach of the gendarme itself was more difficult, for the ridge at its foot, even in summer extremely narrow, was crowned with a sharp crest of snow. The 'Red Tower' was buried under snow, but was fortunately free from ice. Sooner than we had judged from its repulsive appearance, this obstacle lay behind us, and gave access to the peculiarly friable ridge above. At 4.45 P.M. we reached the N. summit of the Bietschhorn. The nearly level ridge leading to the highest point was heavily corniched and, in addition, bore on its crest a huge sérac. Even could we turn this obstacle, which we did not think we could manage, the necessary time could not be afforded.

The view from our standpoint was simply marvellous. All around us even the more distant peaks stood out with absolute clearness, while over the valleys darkness had already closed in. Only then did we realize that the sun was soon going to disappear behind the western mountains. One more look we cast around and then began the descent, going as fast as circumstances permitted. As the last glimmer of daylight disappeared we were just climbing down over the 'Red Tower,' and when we reached the ice-traverse it had become quite dark. The large steps we had cut when ascending stood us in good stead now. Cautiously, ever so cautiously, we crept downwards over all the crests and gendarmes ascended during the day. Suddenly the moon arose from behind the mountains, to meet us like some good friend. In its clear yet unreal light the night lost all its horrors. It was so clear indeed that we dispensed with a lantern. From Monte Leone to the Dent du Midi we could recognize every single mountain. Exquisite indeed was the shimmer of moonlight on the circle of snowy peaks during all these long quiet hours of descent.

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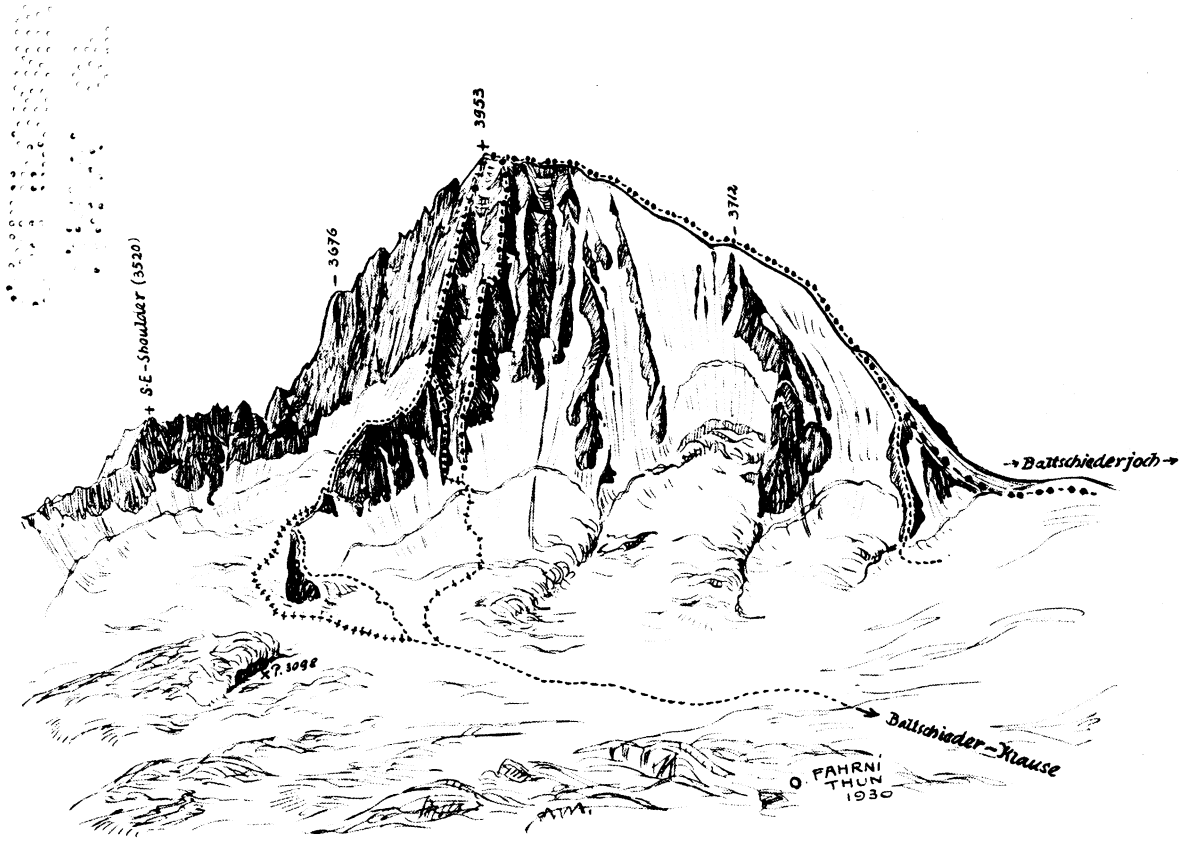

Drawn by O. Fahrni.

BIETSCHHORN, E. Face.

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At midnight we reached the Schafberg. Here we sat down for a short rest and, smoking a well-earned pipe, took in the overwhelming beauty of this winter night.

The descent over the steep slopes of the Schafberg again required great care. At 1.30 A.M. we re-entered the hut after an absence of nearly 22 hours.

(*Concluded.*)

The East—or Baltschieder Face—of Bietschhorn.

(Explanation of Sketch.[2])

—··—·· — route of Messrs. D. W. Freshfield and C. C. Tucker, with François Dévouassoud and Fr. von Allmen, July 10, 1866, from Baltschiederjoch over the N. arête.

Point 3712 = point where the first party to ascend the Bietschhorn gained the N. arête (Sir Leslie Stephen, with Joh. and Anton Siegen and Jos. Ebener, August 13, 1859).

— + — + — + — + line of ascent of Messrs. C. T. Dent and J. Oakley Maund with Joh. Jaun and Andreas Maurer, July 25, 1878. This route is sometimes a short cut for a party which descends over the E. spur when conditions are good.

+ + + + + + Herr Moritz von Kuffner's (with Alexander Burgener and Aloys Kalbermatten, July 26, 1892) variation.

— — — — — ordinary route when ascending over the E. spur for a party which starts from the Baltschieder-Klause, 2793 m. (*cf.* 'A.J.' **25**, 641–644).

—·—·—·— E. ridge, route of Mr. James W. Alexander, with Oskar Supersaxo, September 2, 1927.

Climbing in Greenland, Petermann Peak.[1]

By J. M. WORDIE.

(Read before the Alpine Club, March 4, 1930.)

GREENLAND, like Spitsbergen, has occasionally been visited by mountain climbers, but generally only as subsidiary to explorations of a wider nature.[2] In West Greenland

[2] By Herr O. Fæhrni, to whom we are again much indebted.—*Editor.*

[1] See map at end of this volume.

[2] The opposite coasts differ very considerably in accessibility: there are regular summer sailings to the W. coast, whilst on the E.

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Edward Whymper's visits in 1867 and 1872 have been described in the ALPINE JOURNAL. In East Greenland, with which the present account is concerned, the only recorded climb, but a notable one, is the ascent of a peak in Franz Josef Fjord in 1870 by Lieut. Payer, Professor Copeland and Peter Ellinger. The mountain has since been known as Payer Peak with a round figure height of 7000 ft. It was the last effort before the return of the German Polar Expedition led by Captain Koldewey in 1869–70; the expedition, planned originally to reach the North Pole, is now perhaps more noteworthy by reason of the chance discovery of Franz Josef Fjord. Payer and his companions climbed from sea-level, making the up and down journey in twenty-one hours. From the summit they discovered the much higher Petermann Peak in the far west. Payer wrote: 'One thing attracted our attention more than anything else, and that was a monstrous pyramid of ice to the west, rising about 4850 ft. above a high mountain ridge. This glorious peak could bear none other name than that of Petermann, the honoured originator of the first German Arctic Expedition: its real height must have approached 11,000 ft.'[3] Payer Peak remained the highest recorded climb within the Arctic Circle for over 50 years. Kebnekaise (6965 ft.) in Lapland was climbed by Monsieur C. Rabot in 1883. Beerenberg (7460 ft.) on Jan Mayen was climbed in 1921.[4]

Between 1870 and the Cambridge Expedition of 1926 the only other ship to penetrate the inner Franz Josef Fjord was that of the Swedish Expedition in 1899 led by Professor

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this is impossible owing to the presence of heavy pack-ice carried S. by the East Greenland Current. Ships attempting to reach the E. coast require special ice-strengthening, and the land has only occasionally been visited.

[3] Captain Koldewey, *The German Arctic Expedition of 1869–70*, English edition, edited by H. W. Bates (London, 1874), p. 561. The English edition lacks certain of the large-scale maps and coloured plates appearing in the original German, and more particularly a striking coloured plate of Petermann Peak from Payer Peak. This same view, but with some interesting differences, appears as a black-and-white illustration in Lieut. Payer's separately published account. There is a note on the two mountains in *A.J.* **5**, 266–268.

[4] *Geographical Journal*, March 1922, pp. 180–195, where the height based on aneroid observations is given as 8090 ft. The figure of 7460 ft. (2274 m.) was determined by Professor Mercanton by theodolite in 1929.

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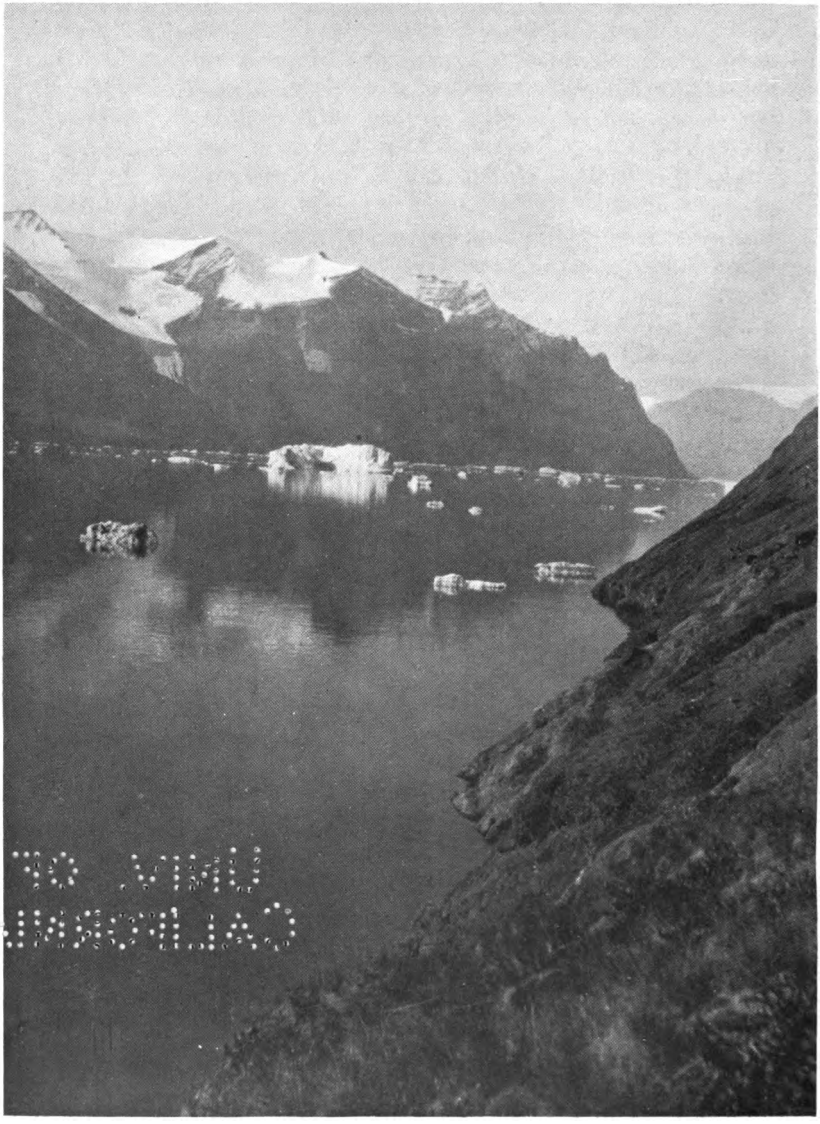

Photo, R. C. Wakefield.

FRANZ JOSEF FJORD.
Payer Peak (6,900 ft.), Suess Land on left.

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Nathorst. Nathorst reported that the height of Petermann was much lower than as stated by Payer. His photographs show, however, that he was observing a lower peak, not so far distant, and which we have since called Nathorst Peak. The Swedish surveyors do not appear to have climbed any mountain for survey purposes, their work being done either from the deck of the ship or from shore stations.

An attempt on Petermann Peak was included in the programme of expeditions from Cambridge in 1923 and 1926.[5] In the former year the ship, owing to exceptional ice conditions, failed to reach the East Greenland coast. In 1926, on the other hand, the seas were almost entirely ice-free, and a full programme of exploratory mapping was carried out. Five days in the beginning of August were all that could be spared for an attempt on the mountain, but the time so set aside proved, in the end, much too short and a reconnaissance of the approaches was all that could be attempted. It had been planned to follow a route up the Nordenskiöld Glacier from the head of Franz Josef Fjord, but close packing of brash ice due to falls from the glacier face prevented the ship reaching within 4 miles of the terminal ice cliff. On either side of the fjord the rock cliffs are impassable, and a side route had therefore to be found from Kjerulf Fjord. From the foot of Riddarborgen we climbed up towards the Riddar Glacier; camp was pitched the first night on heath-covered ground 3000 ft. above sea-level, and on the second night on the ridge W. of Cambridge Peak at a height not far short of 7000 ft. The view from this high camp made it clear that Petermann Peak was unlikely to be reached in less than six days. Only three more days were available, however, and the 1926 reconnaissance ended with the ascent of two other Cambridge Peaks and of Riddarborgen. This experience showed that the by-pass route from Kjerulf Fjord would require to curve well to the S. so as to avoid the deep-cut branch valleys on the S. side of the Nordenskiöld Glacier. It was also evident that, considering distance and terrain, the only possible method of transport would be by 'packing.'

In 1926 the ship had reached the coast in the second week of July and we had had six weeks at our disposal for exploration. Last year (1929) the pack-ice conditions were the reverse of favourable, and it took four weeks to reach the coast from Jan Mayen, and the ship did not get to the head of Franz Josef Fjord till August 6. On this occasion it would have

[5] *Geographical Journal*, Sept. 1927, pp. 225–265.

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been possible to have approached the foot of the Nordenskiöld Glacier and probably to have landed a party at either side. We did not adopt this course but again selected Kjerulf Fjord as a base for the following reasons. There might be a recurrence of the events of 1926, which would prevent the party being taken off by the parent ship or even leaving in their own rowing-boat from the foot of the Nordenskiöld Glacier: and a base near there would also always be liable to inundation by waves from bergs calving off the glacier end, whilst in Kjerulf Fjord this danger would be absent. We were most influenced, however, by the conviction that brash ice would only be temporarily held near the mouth of Kjerulf Fjord and that from a base there, a journey by rowing-boat to the outer coast, 120 miles distant, was always possible. In the event of having to retreat by rowing-boat a party can reckon on an unlimited supply of game, and particularly musk-ox meat, in the outer parts of Franz Josef Fjord. The chances of the ship not returning owing to ice hindrances and the waters being uncharted are of course considerable.

On August 6 we made a depôt at the S. foot of Riddarborgen consisting of two Whymper tents, a fortnight's provisions, rifles, a rowing-boat, and a certain amount of winter clothing. The only danger to the depôt was possible damage by polar bears; one was shot near here in 1926 and another in 1929, both males. The climbing party of six consisted of A. Courtauld and R. C. Wakefield in charge of surveys, J. F. Varley, V. E. Fuchs, V. S. Forbes and myself. The tents carried were of Mummery pattern, three in number, made of light material and modified for our particular purpose by having broad skirting and detachable ground sheets; this made it possible to dispense with pegs, and to pitch the tents with equal facility on either rock or snow; a tent complete weighed a little over 6 lbs. The sleeping bags weighed 4–5 lbs. and each consisted of an inner bag of eiderdown fastened inside an outer bag of fine down. The heavier items were the climbing ropes, crampons, Primus stoves and paraffin. Climbing and camp equipment totalled 120 lbs. In addition the survey instruments weighed 55 lbs.; these included a specially constructed 3¼-inch Watts theodolite weighing with legs 20 lbs. Of food the daily ration was very little more than 1½ lbs. per man per day; for the six men the daily consumption was 3–4 lbs. pemmican, 2 lbs. sugar and oatmeal, 2 lbs. chocolate and 2 lbs. biscuits. This was a low ration and could not have been maintained for more than a limited period. We found that

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L-shaped 'Everest' carriers with detachable sacks were much more convenient for our varied loads than the more common frame-rucksack of Bergans Meis type. The total weight to be carried came to about 360 lbs., of which 120 only was food. This is a bigger load per head than can be carried on one journey. On the first day out we had the help, however, of some of those remaining on the ship; and subsequently Forbes was in charge of a couple of relay journeys. Loads of 40 lbs., if there is much uphill work, are about all that can conveniently be carried, and certainly so in the early stages before becoming hardened to the work.

Camp I was pitched amongst rocks and springy heath at 3775 ft. altitude on the N. side of the Riddar Glacier and about one mile above the glacier snout. The way had been a steady climb from sea-level, at first among a low and stunted vegetation of Arctic willow and birch, and later across bouldery scree streaming down from Riddarborgen, where 'bushes' had given way to sparser heath, among which berry plants of familiar Scottish aspect were prominent. The Arctic birch, but not the willow, is burnt dead, and this must certainly point to a climate exceptionally dry. Our height the first night was well below the snow-line.

Next day, August 7, we traversed the hill slopes for a short distance, edging down on to the dry glacier as found convenient. Following the southern branch we reached the first snow at about 6000 ft.; melting, however, was active, and there is no doubt that the snow-line must be still higher at the end of the season. The party divided: Wakefield, Courtauld and Fuchs went off to the right for survey purposes, while the remainder camped on the ridge of the Cambridge Peaks. We spent three nights at Camp II. In the two days following a relay party went down to sea-level and back, a depôt was left at Outlook Col, and a reconnaissance made from Outlook Peak.

We finally quitted Camp II early on August 10. A stiff wind was blowing from the west with drifting snow and heavy cloud; there was every indication of further poor weather comparable to the uncertain conditions of the two previous days. From later experience, however, it may be possible that these conditions are local; at sea-level on the 9th there was intense heat, while at Camp II there was a half-blizzard; again, some days later Forbes reported very strong winds at Outlook Col, while at the same time on the Battlements a survey party was enjoying perfect weather. From Camp II we contoured round to Outlook Col, and, as we reached the

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pass, the weather cleared sufficiently to give a magnificent panorama, parallel intervening ridges serving to throw Petermann Peak, optically at any rate, into the remote distance. A most striking feature was the icy white cone of Mount Shackleton. From Outlook Col one can traverse the N.W. face of Outlook Peak, but to cross over the Peak itself, though slightly longer, is preferable. We were now following the watershed between the southern deep-cut branches of the Nordenskiöld Glacier and the glaciers flowing S. to the head of Kjerulf Fjord. Snow Dome gave some trouble by reason of a combination of wide schrunds and deep treacherous snow.

The top of the Knoll was reached about 7 P.M., and steps taken to find a camp site. Up till now we had been fortunate enough on each occasion to find sufficient bare ground adaptable to tent sites, and now to achieve our purpose we descended about 700 ft. of rock and scree to the Mercanton Glacier —the descent being, in any case, necessary to our route. The advantage of camp sites on stony ground, and therefore dry though angular, needs no emphasis; this object was always in view and was realized throughout the trip. Any inconvenience from a moraine mattress can be countered by judicious coiling of the climbing rope. Another advantage of selecting sites near the snow-line, preferably near bare rock, is the likelihood of finding running water. To melt ice for water is more economical than melting snow, but even then doubles the paraffin consumption. A generous water supply is very necessary, and the craving for it seems almost as strong as for sugar.

Up till now it had been a problem as to how far our route was the best one. That a deep valley might cut across our proposed track was clearly possible, and such had been the opinion of the 1926 surveyors; on the other hand, some of us thought that it was much more likely that the main peak would be reached without losing much height. These doubts were soon settled. On the 11th we reached Sentinel Col in a W. wind and driving mist; that we had chosen to follow this particular direction was perhaps a matter of luck, but until the mist cleared in the afternoon there was nothing to indicate whether we were on the right route or not. The clouds lifted; right and left of the pass we climbed the Sentinel and the Knuckle, and then definitely learnt that a descent was necessary down to and across the Nordenskiöld Glacier. We had struck blindly towards Sentinel Col in the fog; we now knew it as the only possible route, and as an easy pass over to the Ptarmigan Glaciers.

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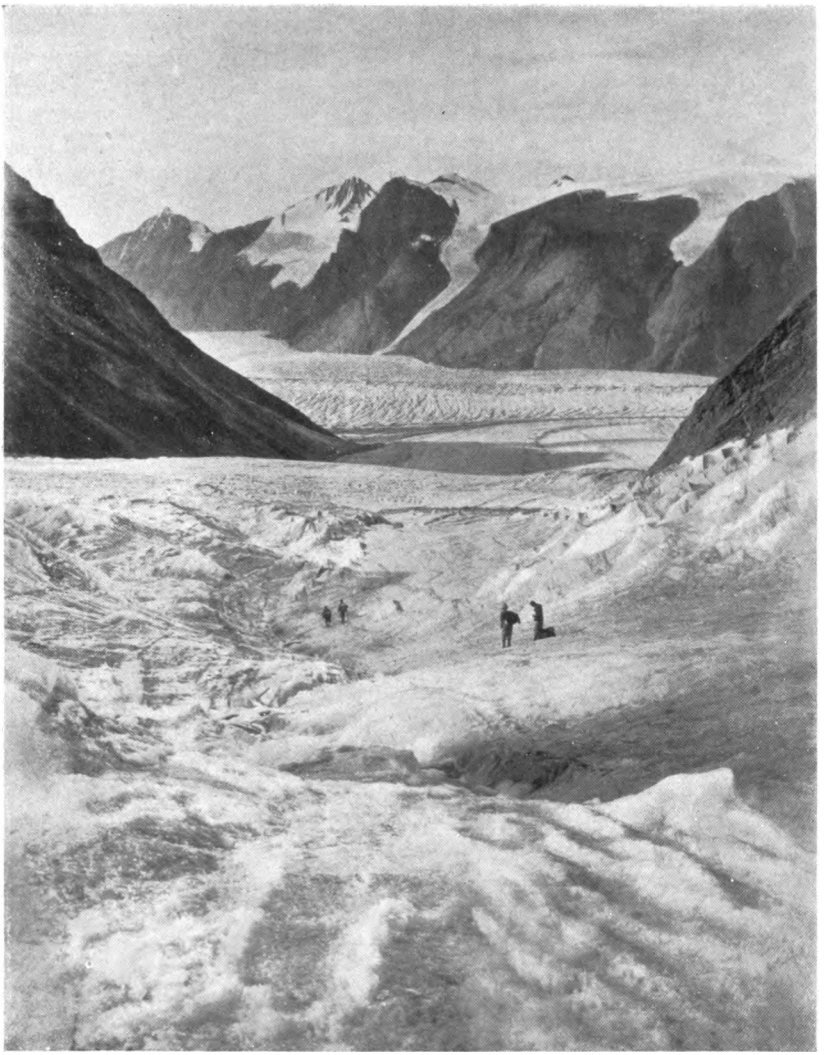

Photo, R. C. Wakefield.

Looking down Middle Ptarmigan Glacier to the big Nordenskiöld Glacier.

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Photo, R. C. Wakefield.

High Camp on Ptarmigan Glacier.
(Mt. Shackleton in Background.)

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Two nights were spent by the upper of these glaciers at Camp IV to allow of supplies being replenished and survey work accomplished from the Battlements. At the latter point also a telescope reconnaissance was made of the Nordenskiöld Glacier and its forbidding N. wall. The trunk glacier is deeply entrenched between nearly perpendicular cliffs, and the side glaciers are almost all of the 'cascading' type, the Ptarmigan on the S. side being the exception. We planned to follow the moraines along the S. side of the Nordenskiöld Glacier and then to cross it to a point a little W. of the Disa Glacier junction. An immense rock-fall from the Lion Bastion served as a warning that we were not dealing with an old, almost subdued land but with much more raw and immature country.

At Camp IV (5900 ft.) we had dropped below the snow-line, and on the screes nearby there had been a rich vegetation, withered by now, but occasionally frequented by hares and ptarmigan; while we were away from camp an inquisitive fox had followed our trail. The next days were gloriously warm: on dry ice we threaded a way down the crevassed portions of the Upper and Middle Ptarmigan Glaciers on to the wider and smoothly rolling Lower Ptarmigan. Corner Lake is ice enclosed like the Märjelen See. To us, who had just descended from higher and colder lands, it was a most attractive and tempting region.

On the 14th the difficulties of crossing the big glacier soon vanished. From six miles distant on the Battlements it was hardly possible to settle details, but the route selected in the end proved free from crevasses and séracs except in the last quarter-mile. The worst anticipation had been the ice-cut river gorges serpentining down the centre near two prominent medial moraines. Up till now we had regretted the lateness of the season and the hindrances in the pack-ice which had prevented a climbing journey in July; the nights were cold, falls of snow had been not infrequent, and we felt throughout that the Arctic autumn was already with us. This day, however, we experienced the advantage of the late season. In the thaw conditions during July the glacier would have been almost impassable and the same would have applied to the surface rivers. By the middle of August, however, what must have been rushing torrents in July had dwindled to trickles of clear water. It was, in fact, a comparatively easy matter to climb down their ice sides to the stream-bed, and by working either up or down stream find a way out on the other side. On one occasion Wakefield piloted us along a river-bed through

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a narrow trench about 40 ft. deep and about 6 in breadth: the walls, wavy and rippled by water erosion, were of a dazzling blue, giving the effect of mirrors and jazz lighting when the light struck the ice from fresh angles.

While crossing the glacier Varley's boots gave out. He could still have carried on wherever the ground was suitable for crampons, but otherwise with difficulty. As we expected to return in three days we thought it advisable to leave him on the N. side of the glacier to make the best of impromptu ideas on boot-repairing. The rest of us pushed on up screes and rocks on a shoulder W. of the Disa Glacier and ultimately pitched camp on its right lateral moraine. At this height (5500 ft.) we were again still below the snow-line. In its nature, however, the rock differed from that round Corner Lake and Camp IV; quartzites had taken the place of the more tractable granite-gneiss, and, in the absence of a more easily weathered rock, vegetation had ceased.

On August 15 we broke camp about 8 A.M., local time, found an easy snow pass at the head of the Disa Glacier, and dropped about 1200 ft. to the upper reaches of the Gregory Glacier. The latter is snow covered but with the snow very near the melting stage. By the end of August its surface might well be below the snow-line. Petermann Peak stood in front as a squat pyramid beyond a wide snow apron. The mountain is composed of three ridges: that running to the N.E. abutted against the elbow of the Gregory Glacier and appeared to be the most difficult; right in face the S.E. ridge was foreshortened and offered apparently stiff rock work; the S.W. ridge, seen in flank, promised the easiest and therefore the best way to the summit. We chose the latter route, crossed the snow apron, struck up 1200 ft. of extremely hard snow, and about 5 P.M., local time, had reached a point 8200 ft. high on the S.W. ridge. At this point predominant snow gave place to a definite rock arête. The climbing presented no unusual difficulties, rocky steps alternating with snow and ice. Our only trouble was a threatened change of weather, which had been evident since the afternoon and had made it absolutely necessary, our rations being practically exhausted, to undertake the climb at once. About 7.30 P.M. we reached the first and only serious obstacle, finding ourselves about 100 ft. below the summit and at the foot of a steep ice cone. We were in doubt: the wind had risen to a gale from N.W. and was sweeping across the ridge at about 40 m.p.h. We hesitated to spend an hour step-cutting exposed to these conditions.

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The S. face was in shelter, but a brief reconnaissance showed that we could hardly expect to negotiate the ice-slopes and widely spaced rock ribs with any degree of safety. The only other alternative was to turn the ice cone by a traverse on to the exposed N.W. face. Fuchs and Courtauld remained on the ridge; Forbes, Wakefield and myself traversed to the left across the foot of the cone, where the gentler slope permitted a crampon traverse. On the N.W. face we found conditions which in calm weather would have offered moderate ice and rock work, but in the gale then blowing proved both difficult and exhausting. After about an hour we crawled on to the top of the ice cone and into view of the two men left below on the ridge. In the interval since we had separated the weather had become worse, and it was now impossible to stand against the strong gale. We shouted down-wind to the waiting men that following us was out of the question, and that their only course was to return down the ridge. While waiting on the ridge Fuchs and Courtauld made boiling-point observations for height under what might have been considered almost impossible conditions. The ice cone was separated by a drop of 30 ft. from some higher shattered rocks, and we reached the summit proper at about 8.30 P.M.

The height of Petermann Peak has been a matter of discussion. From Payer Peak Copeland and Payer took theodolite angles, and stated at first that the height must be nearly 3300 m. (*i.e.* 10,827 ft.); this figure was put down as 11,000 ft. in the English translation of the German official account written by Captain Koldewey. In a map, however, inserted in the German edition the height is given as 3480 m. (*i.e.* 11,417 ft.). Lieut. Payer also published an account of the expedition as an appendix to *Die oesterreichisch'-ungarische Nordpol-Expedition in den Jahren 1872–74*, Vienna, 1876. He gives the height as at least 11,400 ft. in the text and repeats the same figure in his map. There seems little doubt therefore that 11,400 ft. was the height finally adopted. In one account of the expedition, however, the figure became 14,000 ft.; this probable misprint appears in several atlases, and in 'A.J.' 5. Error has again arisen over Nathorst's measurement of a lower peak seen from the fjord. His estimate of 'the altitude as between 2500 and 2800 m. (8000–9000 ft.)' has had considerable currency.[6] Last summer we assigned to Nathorst Peak a height of 8480 ft. We determined the height of Petermann

[6] *Geographical Journal*, January 1901, vol. xvii. p. 62.

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by the combined evidence of theodolite angles and hypsometer, apart from less reliable aneroid measurements. The figure calculated, 9650 ft., does not err by more than 50 ft. The peak stands higher than all its neighbours. The nearest rival within sight is Mount Shackleton, of which Wakefield estimates the height as 9000 ft. If there are higher peaks in the great mountain land fringing the ice cap, they must be looked for either some distance north of 74° or south of 72° N. lat. To the W. the mountains are lower and appear more deeply set in ice and snow, soon becoming more properly speaking nunataks. About 15 miles W. of Petermann, nunataks cease and the ice cap stretches westwards into the distance. In the S.W. we had a magnificent panorama of the Nordenskiöld Glacier draining the ice cap from beyond Mount Shackleton, and with its collected branches sweeping round the base of Petermann. East and S.E. were successive ridges with little possibility of picking out details. To the N.E., however, beyond the Gregory Glacier was a region more clearly visible. Some 15 miles distant we could see three lakes lying in apparently ice-free country: the conditions may be comparable to the Dry Valley in Victoria Land, Antarctica, and seem almost out of place in a region so closely set against the ice cap.

Return by the S.W. ridge had become uninviting. The S.E. ridge had been considered a possibility earlier in the day and now we saw that it offered in all probability an easier and certainly sheltered way down. We descended fairly slowly and reached the snow apron at the foot of the ridge, 1700 ft. below, in 3½ hours. We then dropped another 1700 ft. or more across the apron to moraine ground, where camp had already been pitched by Fuchs and Courtauld on the easier levels immediately above the northern rock wall of the Nordenskiöld Glacier.

During the next twelve hours the gale blew itself out. Wakefield by a supreme effort managed to complete his plane-table map even during the gale, and there was nothing to delay immediate return to Kjerulf Fjord. We pushed the pace on the return; we had overstayed our time from the ship, and in so doing were short of adequate rations. Late on August 16 we rejoined Varley at Camp VIII; a 12-hrs.' march on the 17th took us back to Camp IV, while a 15-hrs.' day on the 18th brought us to the ship at Kjerulf Fjord. An outward journey of nine days was compressed into three, due to lighter loads, no halts for survey purposes and a known route.

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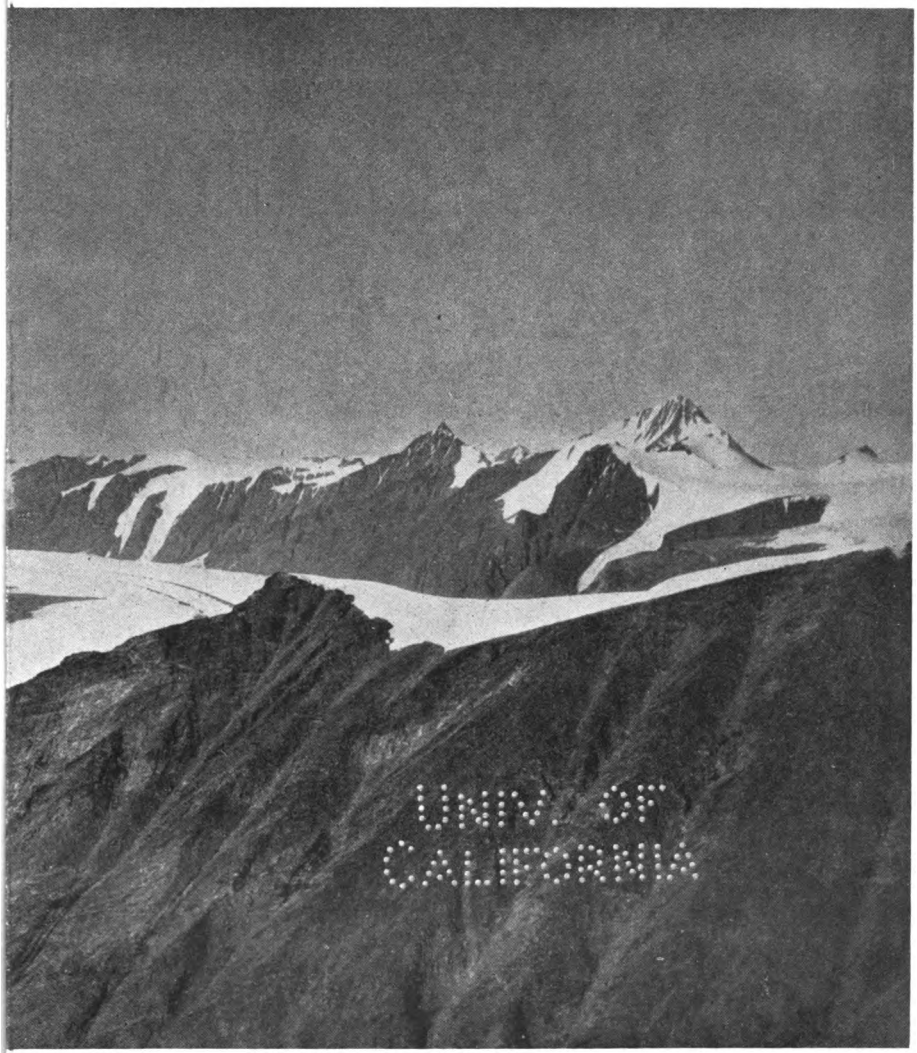

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Pretty full details have already been given of the equipment and weights carried. Some further economies would have been possible. We carried too much paraffin because of the uncertainty whether snow and ice would have to be melted for drinking purposes. Pemmican wrapped in grease-proof paper would have been lighter than in tins. Two tents might have taken the place of three, and in that case they could preferably have been slightly bigger than the standard Mummery size. A general criticism would be that the food weight was a very small proportion of the total weight carried. Otherwise we appeared to have travelled as efficiently as possible in a region where one has to be always prepared for unexpected conditions.

East Greenland offers an almost inexhaustible field for summer exploration. At present the main drawback is the chance of finding the pack-ice impenetrable in the year selected. As a suitable ship must be specially chartered (in our case at Kr. 250 per day, not including fuel) the cost involved is considerable. In future one may expect that both Danish and Norwegian ships will frequent the coast more than at present; should this be so, passages might be obtained; such an arrangement, however, would not altogether take the place of the much more convenient and more secure position of chartering one's own ship. The most encouraging regions for further exploration in a summer season are the areas N.W. of Hudson Land, W. of Andrée Land, and the interior of Scoresby Land, S.W. of Davy Sound. There are also possibilities in the interior parts of Scoresby Sound, in 70° N. lat. Speaking generally, however the weather conditions are drier and more reliable between 72° and 75° N. lat. than in the area farther south. The extremely dry and settled weather conditions in these latitudes require special emphasis, and certainly no other part offers the almost incomparable scenery, colouring, and diversity of rock structure characterizing Franz Josef Fjord and Davy Sound.

The details of last summer's itinerary were as follows.[7] The s.s. *Heimland*, chartered from Norway, sailed with our party of nine from Aberdeen on July 2. The pack-ice was entered on July 8, and on August 4 we reached land water along the coast. The return journey was begun on August 25 and the ice belt passed through in six days. Calls were made at

[7] A general account of the expedition's activities is published in the *Geographical Journal*, June 1930, pp. 481–504.

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Jan Mayen and the Faroes, and Aberdeen reached on September 9. By contrast in 1926 we left Aberdeen on June 30 and were in the ice from July 8 to July 11. Six weeks were spent along the coast and in the fjords. Scoresby Sound was left on August 23, and after a détour by Reykjavik the *Heimland* was back in Aberdeen on September 8.

[We offer our thanks to the Council of the R.G.S. for permission to reproduce their map.—*Editor*, 'A.J.']

Eiger and Hörnli:
Some Accounts and Recollections.

By SABURO MATSUKATA.

(This and the following paper were read before the Alpine Club, April 1, 1930, by the Rev. Walter Weston.)

[Both these papers are published in their own original and delightful form.]

I.

TO my great regret, strangely have I forgotten what my first impression of Grindelwald was. All what I remember is that I felt some sort of curious familiarity when I was walking up the village road alone. It was like a first visit to a place, which one thinks he has seen in his dream before.

Of course, it was much more agreeable to me to be free from the sight of stone buildings of French cities, which caused some sort of obsession, peculiar, perhaps, to me who has had bad experiences in the earthquake. But the main reason of my being so at home here was not this. In short, I knew so much of this valley and village already and could not think myself a stranger. I owed this unusual knowledge to my predecessor [1] who lived here for two years, wandering widely among the hills surrounding the valley as well as among the villagers, and eventually became a half-native. And when he came back [2] from abroad he found us waiting for his story of adventures among the foreign mountains. Soon he became the victim of hungry wolves and whenever he was

[1] Mr. Yuko Maki.—*W. W.*

[2] To Japan.—*W. W.*

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with us, he was obliged to give some lectures on the mountains and the people in the place called ' Alps,' which we imagined something like a Paradise on earth. Unlike in the class-room we were exceedingly attentive and liked to hear more.

From this pre-education I was acquainted with some names of guides and their careers as mountaineers. I knew who was the ' Pickel-meister ' and where he lives. I knew where I should go to order my rucksack and *Bergschuhe*. Of course, I have decided long before I left my country where to stay in this village.

So I went to ' Adler ' and was given a room looking toward Wetterhorn. It was the end of January 1925, just four weeks after I landed at Marseilles. The day was clear, Scheidegg-Wetterhorn was towering straight up into the winter sky. I sank in my chair infinitely satisfied and was quite absorbed in this magnificence until the chamber-maid knocked my door to tell that she has brought up hot water.

Late in the afternoon I was wandering up the winding road to Upper-Glacier. The dusk came so soon that I had to abandon my hope of reachingt he glacier. But the Eiger I saw that evening was a revelation. We all were now in the shadow of Tschuggen and the last of sunshine was playing on the top of that gigantic pyramid. But the moment when the icy crest ceased to shine everything has changed. The giant smiled no more. He seemed twice as high as before and was looking down upon us almost mercilessly. I felt as if I was beginning to understand why those people—from the Hartleys to Maki—could not stay below in the valley quietly. I now understood that it was the mountain who challenged.

This history of the attempt to climb the Mittellegi arête tells that there were not few who had accepted this challenge. But no ridge has so long a record of persistent resistance. And so, the ridge remained still unascended for nearly half a century since it was first tried. Every one in the valley knew that it was a problem to be solved, sooner or later. But few noticed that there was a stranger, who came from the other side of the world and settled down there since the autumn of 1919, and he was examining the ridge with great devotion. Faulhorn was his favourite observatory. People saw him so often sitting by the telescope on the top looking at the mountain.

But it was not until the end of the second summer that Maki, the stranger (who by this time became well acquainted with all the villagers), revealed his intention to try this ridge.

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Emil Steuri, who was Maki's first guide and who was the first to discuss the plan with him, was sadly ill in bed. So the party had to be made up without him. Fritz Amatter was to be the leader guide, Fritz Steuri and Samuel Brawand were to assist him. One thing to be noticed as to the equipments they prepared is that they had a long pole of 5½ metres with special arrangement on both ends. It was an invention of Amatter, who has tried the ridge twice before, and who knew the ridge better than anyone else, and it was carefully manufactured in the dark forge of Christian Schenk.

In the afternoon of 9th September, the party was climbing up the Kalli-side of the ridge heavily loaded with the bivouac materials, pitons and the pole. They gained the ridge at the point a little higher than where the hut now stands. Having a rest there they followed the ridge up to the bivouac place [3500 m.] at about 5 in the evening. After some effort they managed to make a small platform, so small as to allow only one man to lie and one to sit and lean against the other. So the two have to stay on the ridge alternately. The weather seemed to be changing and the night was cold.

The morning came, the weather remained still doubtful and it was only 7 o'clock that they have decided to start. At 9 they reached to the foot of the ' Great Gendarme ' (3687 m.) and at 10 they descended into the gap between the Great Gendarme and the final rise. Here began the real fight. They changed the order of the party. Amatter leading and Steuri and Brawand followed, in order to be able to assist the first by holding the pole at its foot, whenever necessary. The first overhang, which defeated so many parties, was conquered by using the pole. The pole proved to be helpful and was carried up along by the last man, Maki.

The work was exceedingly difficult, needless to say. Moreover there was new powder snow. For seven hours they were on the edge-like ridge of 200 metres, standing almost vertically. They climbed, straight up, for neither side of the ridge allowed them to traverse. They all knew that they cannot retreat. Scarcely have they spoken to each other and only once they paused, sticking to the rock, to take a slight nourishment.

It was good (not for them but for the people below, who were following them throughout the morning through the glass), that when they began this final attack they were soon covered by a mist. For the people climbing it might have been the same whether they were in the cloud or not. After all they had no choice but to climb upwards. Step by step

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they went, until they found suddenly that the ridge became tame. They know they have conquered, they have overcome the most difficult part of the ascent. It was 5 o'clock in the evening. They left all the pitons there and planted the pole beside the Burgener's *Pickel*, which was used for *abseilen* by the Kuffner's party in 1885 and stood there all those 36 years on the ridge. They put a handkerchief on the pole hoping that it will tell the people in the valley of their success following morning. They proceeded. And at 7.15 they stood on the top of the Eiger.[3] Because of the threatening dusk and chill they could hardly stay for more than five minutes. They changed their order and soon started.

Descent to Eigergletscher in ordinary condition is not very difficult, although it is long and tiresome. But descent in the darkness after hours of so strenuous a labour and with only one lamp for a party of four was very different. (The Amatter's rucksack fell into the abyss while they were struggling on the last rock. Consequently not only one of their lamps but also some of their provisions, which they missed so much afterwards, were sacrificed to the Spirit of the Mountain.) So they were descending slowly and when, at last, they reached the Eigergletscher Station at half-past-two in the next morning, all the people there were deep in sleep having got tired with waiting.

The problem, which had become almost classical, was solved at last. Grindelwald was in a festival when they came back.

(In the village there was a rumour that the party fell and was lost.)

Everybody seemed cheerful, bursting with joy, except one. That was Maki, who knew that the time had come for him to leave the valley, where he lived for two years, connecting his life with that of the villagers so intimately, and where he lived some of the most unforgettable moments of his youth. He left Grindelwald at the end of September.

II.

For some years preceding 1921 there was some idea to build a small refuge on the Mittellegi arête, in order to provide the party to attack the ridge with at least a comfortable sleeping place. Soon after the first successful ascent this

[3] For illustrations of the Mittellegi arête, see Dr. Lauper's paper, *A.J.* **41**, 282–7.—*Editor.*

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scheme began to materialize. The spot where to put up the hut was selected in 1923, two years after the last party slept on the ridge. Late in September in the next year the hut was erected. And on one autumn day some seventy of the inhabitants of the valley, including those who were the guides of the party of 1921 and their families, climbed up to the new hut from Kalli Firn to attend the dedication ceremony.

I visited the hut in the summer of 1925 just to stay for a night. I felt it was my duty to go up there and report all what I saw and felt to Maki, who is now in Japan and has done so much to make the building of this hut possible. Of course, at that time, no one imagined that he will come back to this mountain so soon. But he did come back to the great joy of me and of those who were associated with him in his climbs.

The weather was exceptionally good in the summer of 1926, especially in August and September. Attached to Prince Chichibu's party we wandered in Oberland and in Wallis without knowing when the spell of the good weather will end. We were exceedingly glad that our Prince had such good luck. Zermatt was the last climbing-centre for Prince Chichibu and after having traversed Monte Rosa and Lyskamm and Matterhorn he left the mountains. So we came back to Grindelwald with Mr. Watanabe, who was attached officially to Prince Chichibu and was always accompanying him throughout his summer climbs.

The main object of our return to Grindelwald was to try a complete traverse of the east ridge of Eiger, from Hörnli to the top. Now the hut was built and the rope was fixed, owing to the most devoted effort of Amatter, the lover of Mittellegi arête. So, if we succeed in getting to the hut *via* Hörnli, we can sleep and rest there and proceed further on the next day.

Three in the morning on the 22nd September we started from Grindelwald. To me, who was accustomed to start from a club-hut, this was a strange experience and while we were arranging our things in front of the hotel-porch, I could not help to think of those old days, when they used to start for Matterhorn from Hôtel Monte Rosa.

The party consisted of three amateurs, mentioned above, and four guides, *i.e.* all the three who accompanied Maki in 1921 and Emil Steuri. We climbed along the ordinary route towards the east foot of the I. Hörnli (2866 m.). The rock was dry. We were well trained and went up quite cheerfully, enjoying every bit of the climb. We gained the ridge at about the noon and had a nice rest. Some even had slumbered

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awhile under the warm autumn sun. Then the party began to traverse eastwards. The weather was perfect and the views to the both sides were so grand and fascinating that I could not help to wonder why this part of the ridge was so neglected generally. And the Eiger from here! I never saw such an impressive pose of a mountain.

We descended to the gap which separates the points 2929 m. and 3004 m. at about 3 in the afternoon. This gap is so prominent that it did not escape our notice. We all anticipated quite well that there must be some problem to be faced, but we did not realize that we were much too optimistic until we came to the spot actually.

First we tried to climb directly upwards over the face of the cleft before us. There was a crack but we had to give up this slightly overhanging face, because, we thought, without some aids of piton it was impossible to climb. And either piton or nail we had none. There was left only one alternative. It was to traverse the south-east flank. Emil went to patrol and reported this was practicable. But Amatter who was following him thought it was too exposed and will cost too much time for a caravan of seven. We all knew Emil so well that even though he says 'Es geht schön,' that may not mean that it is all right for us all. As an exceptional human being, he, like a chamois, could climb everywhere. After some discussion we decided not to force this traverse, to the great disappointment of Emil.

So the retreat began. It was a miserable one. We lost much time in searching the way and, moreover, the rock was no more so dry as before. In the disheartening mist and dusk we had to descend this slippery face and, afterwards, had to swim in the bush, often falling into the pitfall, until, at last, we reached to the foot-path, which led us to Alpiglen.

Long and good sleep and also the fresh milk from the alp had some soothing effect upon us. We got back our energy and cheerfulness miraculously.

On this day (September 23), our caravan removed its camp from Alpiglen to Mittellegi hut, and on the next morning we climbed over the east ridge of Eiger. Rock was almost free from snow and ice. Wearing rubber-soled shoes, up we went. It was a magnificent climb. Autumn sky was as clear as anything, besides, there were all the four who were the first to climb this ridge. Every now and then I tried to imagine myself hanging on the edge of the ridge without any help of fixed rope. But I had to acknowledge that even though there were nothing like this—if so, I will never dream of coming

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up here—it will be impossible to understand what their first ascent was like. To climb with a consciousness of having been done before is, in itself, so totally different from that without it. All the time while I was on the ridge, I never ceased to admire those ' quatre ânes ' but, at the same time, I was feeling so sorry for them, that this poor follower will never be able to appreciate their performance fully and properly. We descended to Eigergletscher. This was the last fine day in the season of the year 1926.

In the summer of 1927 I came back to the mountain once more, but not accompanying Mr. Watanabe and Maki, who were gone back home already, but together with Uramatsu, Emil and Brawand who were waiting for us. And, of course, the mountain did not disappear in the meantime. So everything was all right, except the weather.

We thought first thing to be done is to solve the problem which we left reluctantly unsolved last year.

This time we have chosen Alpiglen for our starting point. Leaving the hotel at 3.15 on August 6, we gained the ridge at 7.30 and reached the gap, the battlefield of last year, at 10 o'clock. Then we opened our attack. We prepared plenty of nail and piton as we were to force our way straight forward. We spent between two and three hours in boring into the rock to make the first 10 metres comparatively tame. But we have another 30 metres to overcome. Belaying his rope over the highest nail Brawand slowly swung himself over the edge to the south-east face, and so was lost from our sight, for how long, we do not remember. At least for one hour we were waiting below, not knowing what was happening on the other side of the edge. But at last there came a voice, from the top, opposite to us. Then we saw the head of ' Giraffe.' He had climbed up exceedingly difficult and exposed gully and had reached to the ridge. For the following two hours we were still engaged on this some 40 metres. One by one we had to go. So, Emil followed the route of the first. But we two were to climb directly upwards over the face by the aid of the rope thrown from above. Reason for this *coup d'état* was that the weather began to change quickly and we could not waste a second. So I had no choice but to accept the order and to climb the slightly overhanging face. Almost desperately I started. It was really an exhausting work. First ten metres made me pessimistic already. But I could not come back because I could not shout and explain my intention to the people above and because the English rope was not so negotiable as a rubber string. On the nail I hanged

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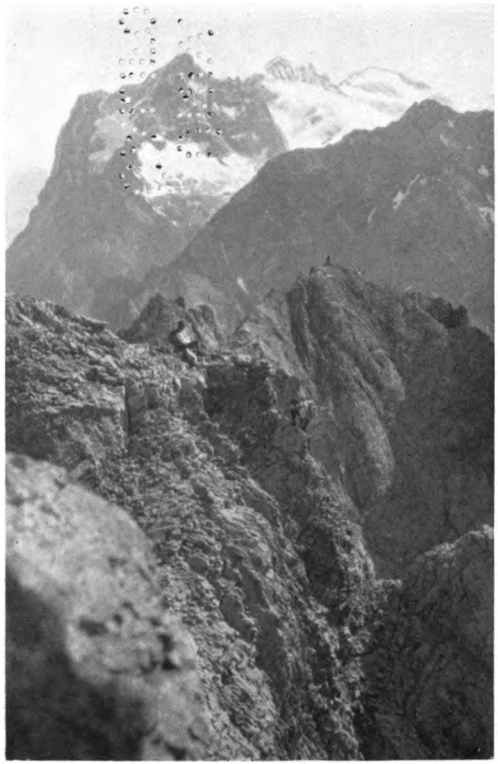
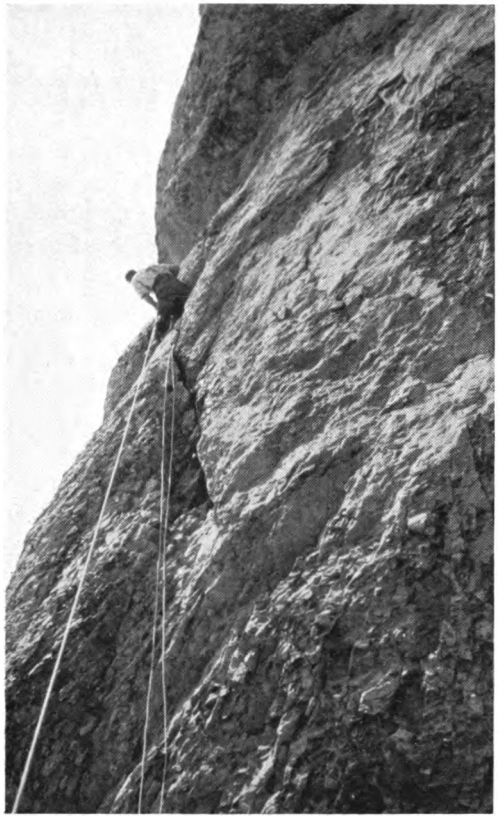


Photo, S. Uramatsu.

HOERNLI and WETTERHORN.



HOERNLI, S.E. slope of ridge.
Brawand leading.

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awhile to recover breath and strength. Then I started again, departing my last base pathetically.

Like everything unorthodox it was a task very hard. But as it was started it has got to be finished. So I struggled on. The *verdammte Nase* resisted as I expected. For a moment I had to go without any hold but my rope. I saw the crevassed Kalli Firn thousand feet below and was so glad that I had the celebrated Frost's rope. When the nose was over everything has changed. I paused for a few seconds, knowing that I am again on the ridge. The rest of the climb was no more difficult and I joined Emil and Brawand soon. At 4 o'clock we all stood on the ridge. We were tired and liked to have some rest before we start again. We thought it was a privilege for those who now stood on the spot where they longed to reach for so long. But the weather was not generous. We had to proceed because of the threatening *Föhn* and were already caught in a storm before we left Hörnli-ridge behind us. For one hour we took shelter under a rock, from where we could see the hut standing on the ridge. But it was not at all so near as I expected. There was a long ridge between the hut and our rock. The weather seemed getting worse and the night was coming up from the valley. So, we had to start. And when we rushed into the hut two hours later (7.40 P.M.) we were really in a miserable condition, thoroughly wet through. We took off everything wet and wrapped up ourselves in the dry blankets, like African chiefs.

The storm was getting so strong that we had some trouble in keeping our fire burning in the stove; still we felt so happy while we were looking at the lightning through our tiny window, not only because we knew that we are safe here in this hut but also because we knew that we have done what we were thinking of for so long a time. We had a small meal for we had little appetite and soon went to sleep after saying 'gute Nacht' to Maki's portrait which hangs above the entrance.

References.

(1) '山行' ('San-Ko')—Song of the Mountain—by Y. Maki, which contains narrative of the first ascent of 1921.

(2) *Die Alpen*, vol. iv, No. 4. 'Der Eiger,' by Samuel Brawand. Description of both the first ascents of Mittellegi arête and Hörnli.

(3) *Chronik der Wengernalp- und Jungfraubahn*, No. 4, Sept. 13, 1925, contains 'Mittellegi: Der Kampf um den Grat,' B. Tännler; 'Die Erstbesteigung,' S. Brawand; 'Hüttenbau,' B. Tännler.

(4) Last No. of 'A.J.' and vol. **35**, 324–6; and others.

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The S.W. Arête of the Wetterhorn.

By SAMITARO URAMATSU.

THE morning was dull. The Lake Thun was flat under the overcasted sky. The Interlaken express was passing by Spiez. A passenger was eagerly looking at the corner of the sky where those snow-clad mountains ought to be seen, though he knew well it was a vain hope. It was his first time to come to Switzerland. How long he had been wishing to see the Alps! Now his long-cherished ambition was going to be realized. The cloud was very thick, but he did not give up his hope that he might be able to have a glance at a snow peak high up in the sky. When he arrived at Grindelwald, even the rain was pouring. He could see nothing but hotel porters, rows of hotels and mist. He followed mutely after a porter in the cold rain. He was I. And it was the beginning of August 1926.

Next morning, when I opened the window shutter, the bright sunshine flooded into my room. And there a beautiful mountain! I could not believe my eyes. Never I could imagine such a colour, such a massiveness. It surpassed all the expectation of a mountaineer whose experience was only limited among the Japanese hills. The sky was clear and the lines of the mountain were sharp after the rain. Whiteness of the fresh snow laid on the mountain-side looked soft against the deep blue of the sky. If I had not been in the hotel room, I should have jumped up with overjoy. I looked at the map and found the name of that mountain was the Wetterhorn.

One afternoon later of the season, I was sitting on the hill-side near Kleine Scheidegg after coming down from the top of Eiger. Watching at the slow movement of an electric train, listening to the jingling of cow-bells, the morning's hard work was making me impossible to resist sleepiness. Suddenly my eyes were arrested. I saw a mysterious colour in the blue sky just behind the dark cliff of the Wetterhorn which was forming a powerful line like a cataract dashing down to Grosse Scheidegg. There was something in it which made one uneasy until one would grasp the very rock of the mountain. I renewed my impression of the Wetterhorn. I watched the mountain intently. I climbed the mountain by Mr. Wills's

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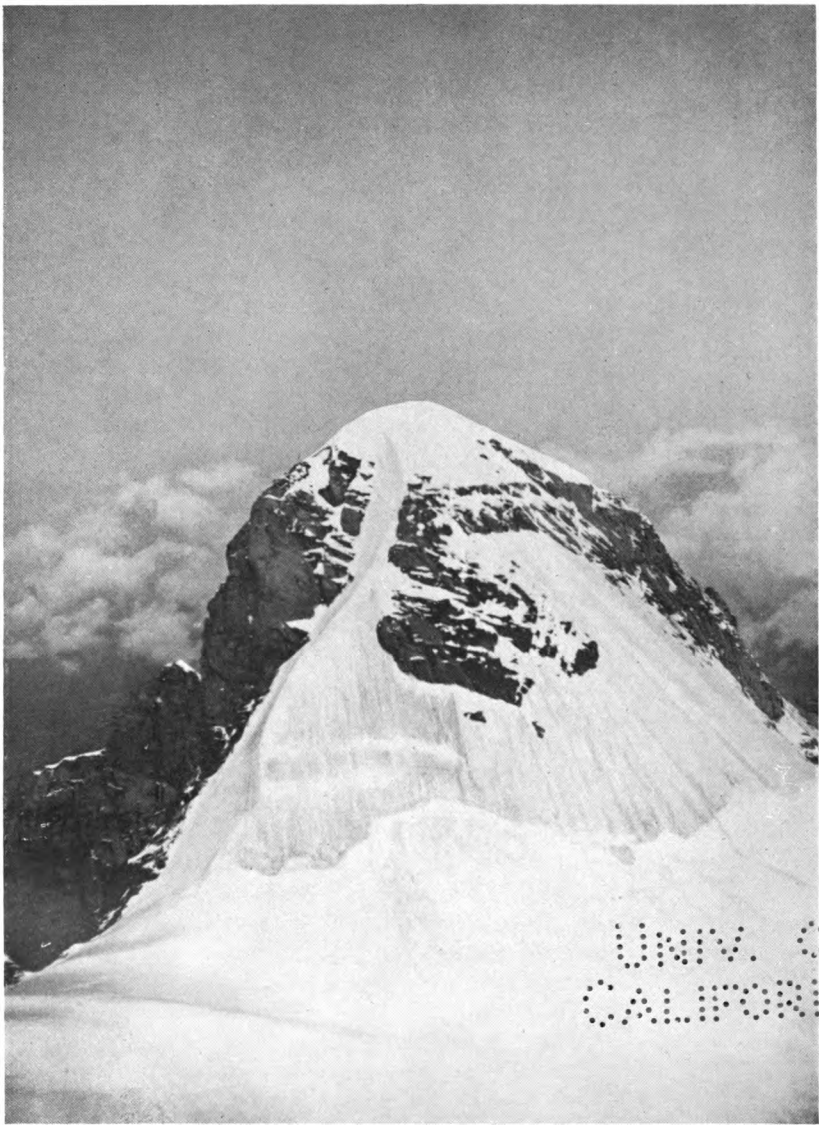

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Photo, W. Weston.

WETTERHORN and S.W. Arête
(from Summit of MITTELHORN).

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classical route. After a few other climbings, my first season in the Alps was over.

January 1927 I was in Grindelwald again. I was waiting there for the weather to make a winter excursion to the Finsteraarhorn. One day my guide, Emil Steuri, suggested me a plan to try an ascent on the S.W. arête of the Wetterhorn while we were talking about that mountain. It was the arête which was once tried by Messrs. Claude Wilson, J. H. Wicks and E. H. F. Bradby on July 5, 1902. So it was written in the Coolidge's *Climbers' Guide.*

Next summer I crossed the channel to Switzerland with my friend Matsukata. The weather of that summer was not favourable at all. Our programme must have been always altered. We came back to Grindelwald in the beginning of September after we had spent much longer time in Dauphiné, Chamonix and Wallis than we had have expected. We were fit and everything was ready. Only a fine weather wanted. The weather was promising on the 10th of that month. So we started for the Gleckstein hut. Next morning we were climbing up the Hühnergutz Glacier, but the doubtful weather turned into a storm as usual. The numberless troops of dark clouds which spread over the western sky were running over the needle peak of Eiger and dashing towards us with a great speed. We were driven back. But the mind bound with a hope was never at rest. We were watching at the mountain with a faint gleam of hope. Every day snow was coming lower and lower on the mountain-side. At last we bid farewell to the mountain on the day when a report of Gemsjaeger's gun was echoing in the autumn valley.

Next August I was in Grindelwald again, but alone, as Matsukata had gone back to Japan. I spent two weeks for training by climbing several peaks around there. On the 23rd we were again at the Gleckstein hut. The evening was calm. I was watching at the twinkling lights of Grindelwald. The gorgeous evening glow just faded away from the top of the Wetterhorn when I turned back to the hut.

Four o'clock in the morning we stepped out into the still darkness. Stars were big and sharp. Three lanterns ahead of us were steadily going up on the Krinne Glacier. We hurried up towards the foot of the S.W. arête. When we stood on the Hühnergutz Glacier, a bright morning was just dawning. Looking backwards we could see Eiger and Mönch fully bathed in the morning glow. Grindelwald was still dim under the morning mist.

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We took our route to the foot of the big tower which was clearly visible from Grindelwald. *Verglas* which covered the lower part of the slope gave us the first serious task of the day. Then we were on the dry rock, but very loose. Cautious steps carried us up to the arête. The second breakfast was opened. A pebble hissing down from the higher cliff was only a disturber of this peaceful moment. The morning sunshine coloured the edge of the higher part of the arête. It looked warm and gay as we sat on the chilly N. side of the mountain. I wished to be there as quick as possible.

A fresh start after the breakfast brought us easily to the gap between the big tower and the continuation of arête. A small crack on the surface of the rock gave us a good foothold to traverse to the other side of the arête. Next moment we were in the full sunshine. Looking downwards, I realized that there was nothing but the air between the foothold and the Krinne Glacier. It was a very exposed bit. Sound rocks, plenty of hand-holds and warm sunshine made us happy.

Meanwhile we were faced with a steep rock with a smooth surface which was higher than 20 ft. Steuri, standing on the shoulders of Brawand, tried his best. But it was hardly possible. At last, with the aid of an iron piton, he jumped up from Brawand's shoulders. His left hand scarcely reached a hold. He climbed it up with a beautiful balance. Then we followed an easy narrow crest until it was closed on three sides by a huge gendarme. This gendarme was our problem since we had made the plan of this climb. There was a shallow chimney in the right wing. Brawand went first to examine it. But it was impossible even to reach the tail of it. He found another chimney which was hidden from us, as it was facing to the N. He thought it might be climbable, so we tried it. It was packed with loose stones and snow. While I was struggling inside the cold chimney, a joyful jodeling came upon me. There were a blue sky and Brawand's face at the top of the chimney. Now our problem was solved. After a short climbing on the loose rocks we got the top of the gendarme.

Since the breakfast we sat on the rock for the first time. We lighted our pipes. I felt my thought was melting away into the endless Alpine sky. The valley of Grindelwald was flooded with the midday light. Eiger, Mönch and Schreckhorn were sleeping under the blue sky. I was happy to be a mountaineer. A distant voice came to us like a breeze. Down

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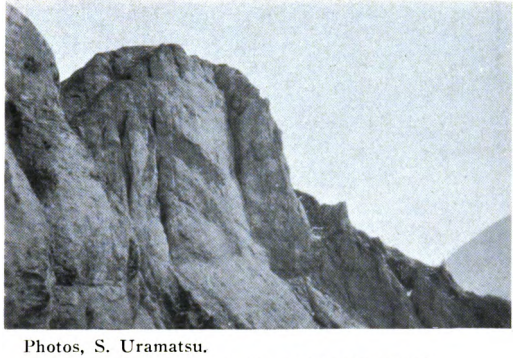
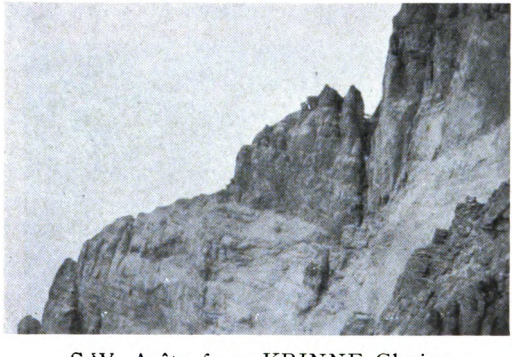


Photos, S. Uramatsu.

Left Wing of the GENDARME.



S.W. Arête from KRINNE Glacier.

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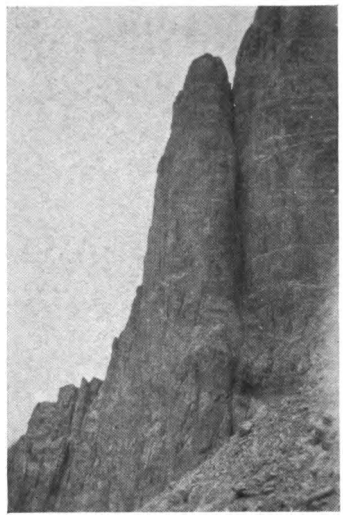
Photos, S. Uramatsu.

Descending the GENDARME.



The "Big Tower."

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in the couloir there we found a party coming down from the summit. We jodeled down to them in response.

The final peak stood beautifully and solemnly like an Italian dome. There was a short ridge between us. When we started for the last task of the day, I felt as if I were waiting for the 'finale' of a great symphony just to begin. The sound of falling ice crashed by the ice-axe was quite refreshing to the tired body. The final slope was not difficult at all. Soon we were on the snow. And then the very summit was under us. There we met with a party which came up by the N.W. arête. Thus the Wetterhorn was climbed from three sides on the same day. It was one o'clock in the afternoon. I sat on my rucksack. The stillness of mountain came back to me. The gleam of the Lake Lucerne was peaceful and the meadow of Grindelwald was as remote as a dream. I was called back to myself as Steuri asked me which route should we take to climb down. We saw dark clouds gathering over the mountains of Wallis. So we took the ordinary route for our descent. After a nice cup of tea at Steuri's restaurant, Hotel Wetterhorn, I was obliged to sit on a cab by his kindness, though I was reluctant. Steuri's son sat on the driver's seat and the cab rattled down the road. I was quite uneasy, for it was my first experience to pass through that road like a Thomas Cook sight-seer.

The Alpine Club Photographic Exhibition, 1929.

THE Exhibition held in December 1929 totalled some 200 photographs and much of the work attained a really high standard. An Exhibition of this nature is intended primarily for climbers and mountain-lovers, while probably some personal experience of mountaineering is essential for the fullest enjoyment of photographs of the glacier world and the high snow-fields.

Curious to see how our Exhibition would appeal to the uninitiated, we invited a friend, a skilled photographer but no mountaineer, to go round the gallery with us. His comments were interesting and suggestive. Sub-alpine studies moved him often to admiration, and he displayed enthusiasm over many of the pictures taken from the middle zone of pasturage and footpath. But when we got him fairly above the snow-line and among the unfamiliar scenery of the summits he

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developed signs of uneasiness, a kind of photographic *mal de montagne*, and applied such epithets as 'jumbly' and 'restless' to the eternal hills. But in spite of artistic difficulties the summit panorama will always figure largely in our Exhibitions, firstly because its appeal to the average mountaineer is quite irresistible, and secondly because the summit is one of the few places on a mountain where the photographer is tolerated and even welcomed by his rope-fellows!

Geographically the Exhibition covered a wide field. The Himalayas, the Canadian Rockies, Norway, Albania, the Alps and our own British hills were all well represented, though the New Zealand Alps and the Pyrenees were notable absentees.

The high traditions of Himalayan photography were well upheld by Mr. Hugh Ruttledge, and his six pictures of the mountains of Western Tibet and the Kumaun Himalaya were a feature of the Exhibition. Each study was exceptional both in technique and in pictorial effect. His distant view of Trisul vignetted by a branching tree was a lovely piece of work, and especially we admired his picture of Kailas in which an impression of vast height and isolation was skilfully conveyed. The Canadian Rockies were represented by a series of views by Mr. L. S. Amery. The honour of having had a peak named after him prompted Mr. Amery, very properly, to make the first ascent of his *protégé*. These views were a product of the expedition, and they combined topographical interest with great artistic merit. We particularly admired his pictures of Mt. Castleguard and of the S. face of Mt. Bryce (reproduced in the JOURNAL). Dr. Finzi showed a number of Norwegian scenes, and bad climbing weather certainly yielded a fine harvest of photography. His pictures all displayed character and a pleasing enterprise in monochrome colouring. His studies of mountain and fjord were very beautiful, and he showed also a notable sunset effect taken on the Norang Fjord. Mr. Athole Murray also exhibited a fine series of Norwegian pictures; his 'Sunrise on Slogen' was particularly good.

Mr. C. M. Sleeman took us right away from the beaten track with his views of the Northern Albanian mountains. We hope they are not so difficult to climb as they are to spell!

As was to be expected, the European Alps provided most of the exhibits, and the pictures ranged from the Dolomites to the Dauphiny. At the same time there seemed to be a tendency this year to revert to well-known centres. Many of the viewpoints would be familiar to members of the Club.

Mr. Arthur Gardner's 'Jungfrau from above Mürren' was

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an example of a well-known subject treated with skill and charm. Perfect composition and a certain soft and luminous quality combined to make a very beautiful scene. A similar luminous quality was to be remarked in Mr. William Bellows' lovely little picture of the 'Gorner Glacier.'

Mr. Alfred Holmes showed an interesting series of pictures, including a study of guides. His views of the 'Blümlisalphorn' and the 'Grandes Jorasses' also appealed to us and showed all his usual mastery of technique.

By a happy inspiration Mr. Ralph S. Morrish showed a delightful portrait of the late Frau Imfeld of Zermatt, who with genial hospitality has welcomed so many weary climbers. In a different style Mr. Morrish's other exhibits were equally good, and in his 'Breithorn' the panel-shaped print and the sweep of glacier gave a clever impression of height. 'The Tour Noir from Val Ferret Chapel' was an attractive composition by Mr. R. A. Morrish.

It is a far cry from the Alps to Dover Cliffs, but Mr. Henry Speyer bridged the gap with an ingenious title, and we felt grateful to him for 'Mummery's Playground.' His other pictures, 'Early Morning on the Lysjoch' and 'The Matterhorn from Mont Durand,' reached the highest standard. In the former a party is seen plodding up a snow-slope, delicately illumined in the dawning light, a scene redolent of happy memories.

Mr. F. S. Smythe showed a view of the summit of the Aiguille Verte taken in winter by Herr H. Hoerlin, a remarkable picture, and one of the gems of the Exhibition. The delicate fluting of the steep, uncompromising snow-slope was beautifully rendered, and the footprints on the summit ridge gave just a touch of human interest. Mr. Smythe also showed work of his own, three fine cloud effects and a magnificent view of the Pétéret Ridge.

The high Alpine views of Mr. T. Howard Somervell were notable for their strength and boldness, an impression perhaps emphasized by the colour in which they were printed. His 'Pic sans Nom from Les Écrins' gave a remarkable effect of savage grandeur.

In a very different style were the flower and child studies of Mr. H. S. Bullock and his delightfully humorous portrait of 'The Innkeeper of Haudères.'

The pictures of Mr. James E. Dawson showed good technique, and Mr. J. C. Gait's views of the Argentière district displayed a fine finish and sound composition, though we thought that

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his skies might with advantage have been printed a trifle darker. Mr. H. E. E. Howson's exhibits were remarkable both for variety and intrinsic merit. His 'Snowdon' was one of the most effective pictures in the show.

We greatly admired also Miss L. M. Davidson's Dolomite views, Mr. Pilkington's 'Meije,' Mr. Wynyard-Wright's 'Rimpfischhorn,' a beautiful cloud effect by Mr. G. A. Lister, two clever studies by Mr. Philip H. Pilditch, Mr. K. C. P. Struve's 'Mittelhorn,' Mr. Benson Lawford's 'Church on the Hill,' and Dr. E. H. Stevens's very artistic 'Sunset from the Grands Mulets.' Good work was shown by Mrs. E. K. Neve and Madame Morin, while Miss McAndrew's 'Piz Palü' was particularly happy with its effect of dazzling sunlight.

Mr. H. R. Williams in 'Monte Rosa' showed how beautiful in quality and texture a series of snow-slopes can be, and Miss Nicholl's fine picture entitled 'Peace' was worthy of the highest praise. In addition to a series of figure studies Miss Tiarks gave us an exquisite scene of the 'Pointe de Chaussy' in winter, and to Miss H. F. M. King and Mr. G. H. Lancaster we were indebted for collections of prints skilfully coloured by hand.

We cannot close without a particular notice of Mr. Robert M. Adam's six wonderful pictures of the Western Highlands which were quite an outstanding feature. 'Reflections, Loch Torridon' was a magnificent piece of work, as also was 'Loch Shiel,' and 'Coire na Poite, Bheinn Bhan,' a glorious rock-buttress which would stir the pulse of any climber. The quality of Mr. Adam's work is apparent when it is remembered that these British hills had to meet the challenge of mountains four or five times their height. In a somewhat different style the studies of Welsh hills by Mr. Eagleton were of remarkable beauty, and in addition to other good work Mr. Hugh Gardner showed three scenes taken in Arran. His 'Cir Mhor' with its clever lighting was a most artistic production.

There were many other notable exhibits of equal merit, but space precludes us from particularizing more fully. To the exhibitors themselves, and to Mr. Sydney Spencer who organized the Exhibition, the heartiest thanks of the Club are due. Mr. Spencer's self-imposed task was no light one, and to his unfailing judgment and sympathetic arrangement of the pictures must be attributed much of the success of the Exhibition.

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Photo, L. I. Grinnell.

GRAND TETON,
from somewhat N. of E.

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The Grand Teton by the East Ridge.

By ROBERT L. M. UNDERHILL.

The Grand Teton (13,747 ft.), culminating point of the Teton Mountains in N.W. Wyoming, has long been esteemed as perhaps the foremost *mountaineering* peak in the United States. To be sure, its reputation for difficulty has of late years been taking the inevitable course outlined by Mummery, yet in all probability not more rapidly or completely than other contemporary reputations of like sort. And now it furthermore appears that the real virtues of the peak have been held in reserve, so that the respect which it has been in the way of forfeiting for its ordinary route must be accorded it again for its other possibilities. Of these, its easterly ridge has been the first to receive any considerable attention.

In July of last year Mr. Kenneth A. Henderson and I left the East with the fixed determination of making an attack upon this E. ridge, the main objective of a campaign in the American Rockies. We knew that it had been attempted, without success, by experienced parties, and understood that it enjoyed popularly that always tantalizing reputation of being unclimbable. Neither of us having been in the district before, we planned first to ascend the mountain by the ordinary route, in order to become familiar with the line of *descent* which we must eventually use, and we allowed ourselves time for reconnaissance trips, should they prove necessary, and for some abortive attempts as well. Having done our previous climbing almost entirely in Europe, neither of us knew what to expect in the way of difficulty, and eagerness to measure the unknown by the regulation standards of the Alps greatly enlivened our enterprise.

The Teton Mountains,[1] just south of Yellowstone National Park, form a relatively isolated chain of the Rockies west of the Continental Divide, from which they are separated by a broad high-lying flat known as Jackson Hole. This flat has its own romantic history, for until a generation or so ago its seclusion, procured by enveloping mountain ranges, made it a notorious refuge of outlaws. Along its western border the Tetons, a granitic uplift, rise sheer for 3000–7000 ft., quite without foothills, while at their bases lies a series of beautiful wooded lakes due to ancient moraines. The Grand Teton, approaching 14,000 ft. in height and standing 7000 ft. above the flat, is flanked by at least four other peaks of between 12,000 and 13,000 ft. within a space of some 15 miles; as the range

[1] The name 'Tetons' ('breasts') was originally given to the mountains by French fur-traders of the eighteenth century who worked north-west to them from Louisiana.

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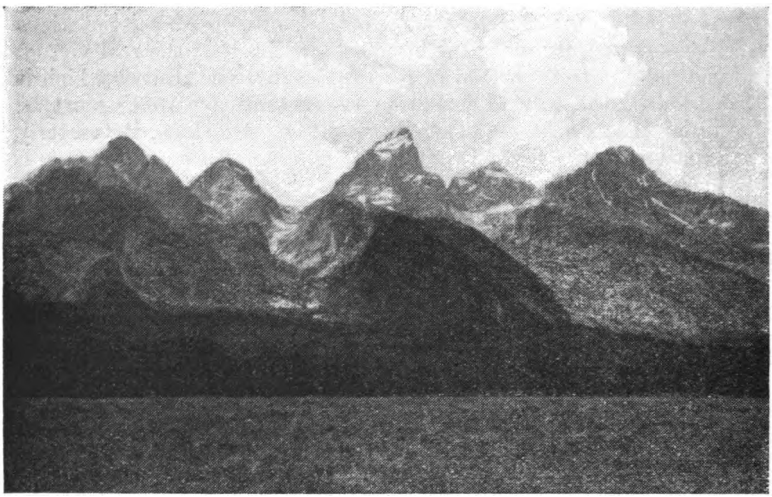
extends southward its average elevation drops off considerably. The group as a whole is the finest mountaineering district in the United States. Others of the country's summits are higher, others again carry larger glaciers, and still others afford harder rock climbs, but there are no better American representatives of that combination of snow, ice, and good rock which have made the great peaks of the Alps the ideal of what a mountain ought to be. In February of last year (1929) the merits of the Tetons finally secured their inclusion in a new National Park, named after their chief summit, and the extension of the admirable policies of the National Park



Photo, K. A. Henderson.]

THE TETONS FROM JACKSON HOLE.
Grand Teton in centre.

Service to the region will prove of much advantage to tourists in the future.

Jenny Lake, the climbing base for the Grand Teton, in Jackson Hole, can be reached by auto-stage in several different ways: from Yellowstone Park on the north; from Lander, terminus of the Chicago and North Western Railway, *via* Moran on the east; and from Victor, Idaho, on the Union Pacific System, *via* Jackson Village on the west. (There is also a southern road, from Rock Springs, Wyoming.) We came in from the east, after ten days' climbing in the neighbouring Wind River Range, which carries the Continental Divide, and obtained our first view of the Tetons across Jackson Lake from the little town of Moran. European visitors are prone to find the mountain scenery of the American West characterless. They miss the classic Alpine landscape, with its

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near views of crowding, sharply-cut peaks, its strong contrast of snowfields and forested slopes, and its detailed valley foregrounds. These things are indeed beautiful, but yet there is a certain obviousness of accentuation about them, as I suspect anyone must come to feel who sets himself to look through at one sitting the collection of photographs in some Alpine *Prachtwerk*. With this classicism in Nature the romantic cast of a scene such as the Tetons presented to us, seen miles away across Jackson Lake and the flat of Jackson Hole, has nothing in common. In the late afternoon light, hazy after a day of storms, sky and lake were a faint blue, and the mountains between them were but another shade of the same colour, merging softly into the blues above and below them. I had never seen such mountains. Totally unreal they seemed, a range of mirage, capable of existing only in an impressionist imagination. And if contrast were wanted, it was at hand in its most fantastic form. No two things could be more harmonious than Swiss alps and Swiss chalets, but here at our feet lay a little Western town, clapped together out of planks and breathing effort and practicality, while across in the distance floated seemingly enchanted mountains that had nothing to do with the spirit of the age and place.

At Jenny Lake we [2] hired riding and pack horses, engaged a packer and a cook (let the latter, A. D. Altenried, of half Swiss parentage, be at once introduced; he cared throughout for our camp, entered thoroughly into the spirit of our proceedings, and assisted us in numerous ways not strictly in his contract), and set out to establish a climbing camp within striking distance of our peak. We knew that the ordinary route started up Bradley Canyon, a deep valley running W. up to a saddle just S. of the Grand Teton, and that the usual camping place lay somewhere up this; we had as yet no notion what starting-point would prove adapted to the E. ridge. As the Bradley Canyon route was difficult for horses our packer suggested that we ascend a broad ridge to the N. of it, which bore the only real trail as yet constructed in the region, to a camping place often used by tourists visiting the Teton Glacier; we should then find ourselves between the ordinary route (to the S.) and the foot of the main E. ridge (in the Teton Glacier to the N.), and favourably situated for both. This advice, inspired as it of course was solely by consideration of the needs of a pack train, proved to be very poor indeed as regards the ordinary route, but very good as regards the E. ridge; on the whole we profited by accepting it. Late on the afternoon of July 19, therefore, we pitched camp at 'Amphitheatre Lake,' a striking little body of

[2] Henry S. Hall, jun., had joined us and was with us upon our preliminary ascent of the Teton, leaving for the East however, before the climb by the E. ridge, in order to fulfil a climbing engagement in the Alps.

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water practically enclosed by cliffs and precipitous slopes, at an altitude of about 9500 ft.

The next day, at the scandalously late hour of 6 (but one can by no means get away from a camp as quickly as from a well-equipped hut, and the American breakfast may not be dispatched with the promptitude of the Continental), we left for our preliminary ascent by the ordinary route.[3] We had hoped, by continuing up the ridge above us, to effect a traverse to the saddle S. of the mountain without descending into Bradley Canyon, but that proved impossible, as the ridge broke off abruptly at a deep inaccessible notch above a pair of steep snow-filled couloirs. Before accepting our fate and returning to a point whence we could descend a gully into the canyon, however, we took the opportunity of inspecting the E. ridge, which now lay clearly before us to the N., across an arm of the deep-lying Teton Glacier. It was fairly clear at once that the primary difficulties of the ridge would lie in two great towers and the stretch between them.[4] Both the towers, each of them several hundred feet high, were of formidable appearance, while the intervening ridge was steep and slabby. We had the gravest doubts whether we should be able to pass even the first of these great towers, and realized that it must have been at its foot that previous attempts to climb the ridge had failed.[5]

We now descended into Bradley Canyon, losing to our disgust some 800 ft. of elevation in so doing, and climbed W. up to the saddle S. of the peak, where we lunched (11.30–12.00). On our way N. from here, up the broad couloir just behind (W. of) the S. ridge and parallel to it, a violent thunderstorm, from which we thought it advisable to take shelter under an overhanging rock, held us up for an hour, so that we reached the 'upper saddle,'

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[3] This route has several times been described in detail. The best account is by A. R. Ellingwood in *Outdoor Life* for September 1924, pp. 181–186. *Cf.* also *A.J.* **19,** 536 *et seq.*

[4] See photograph facing p. 257. The upper great tower is clearly marked against the high snowfield, and indeed it appears distinctly in nearly all photographs of the Teton; the lower is to the left of and below the upper, almost in the extension of the line from the summit to the latter, and nearly the same apparent distance farther. The stretch between the towers, due to foreshortening, here appears simply as the wall or face of the upper and larger tower, but in reality it is a distinct section of ridge. The point from which the observations noted were made is shown at the extreme left centre of the picture.

[5] On the day of our E. ridge climb a native who was apparently conversant with these earlier attempts, visiting our camp and hearing what we were about, remarked laughingly: 'Well, I'll tell you just how far they'll get—to the foot of that first big tower. Then they'll come back!'

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between the main peak and a lower western summit, only at 3.30. Here we roped up and attacked the final 700 ft., where are concentrated all such difficulties as this route has to present.

The first of these is an exposed traverse to the N., under an overhanging rock, along the western side of the peak. (The ordinary route ascends the mountain in a spiral, running W., N., and E.) This passage, often popularly played up as a rather fearsome bit, has been christened 'The Wriggle,' on the supposition that one will effect it by lying down upon the shelf under the overhanging rock and squirming along, pushing one's pack before one. As a matter of fact, however, no such contortions proved to be necessary: a series of adequate footholds runs along the rock face a few feet below the level of the ledge, and the use of these, together with a touch upon the ledge itself for balance, made possible an easy and comfortable crossing of this brief narrow portion of the traverse.

At the end of the traverse a chimney, commencing in two arms, leads up to the right (E.). If the first arm is chosen the initial step apparently presents a difficulty: there are stories of throwing the lasso, using a human ladder, and jumping for a hold. We did not put the necessity for any of these to the test, for the second arm of the chimney, a few feet farther on, is perfectly simple. Why it has not regularly been taken, especially as its existence is sometimes noted in the accounts, is a complete mystery to us.

Above this chimney a succession of broad ledges and other relatively easy chimneys, followed at length by broken rock, lead to the summit. (Arrival, 4.30.) Of this route as a whole the confession must be made that it is long, toilsome, and uninteresting, save for its last 700 ft. The grind up Bradley Canyon to the lower saddle, and the tedious scramble from there to the upper saddle, are devoid of enjoyment, and not compensated for by the inconsequential bits of real rock-climbing found at the top. Save for the strategic quality of the traverse, which must justly have entranced him who first discovered it, most climbers will find little to appreciate upon this route. It can scarcely be compared with the Matterhorn.[6]

Arrived at the summit we at once looked down to the E. at our prospective ridge. The summit itself is constituted by a crest of broken rock running N. and S.; to the E. a steep wall drops some 300 ft. to the head of a sharply inclined snowfield.[7] We took note of a chimney, apparently climbable, which cut this wall directly toward the summit. The snowfield itself sloped away E., S.E., and S.; along its northern edge it abutted on rock precipices falling

[6] With more justice with the Zinal-Rothhorn, as has been done by a Swiss writer in *Die Alpen* for September 1929, p. 330. (This writer is sadly in error in his information concerning the literature of our mountain, its climbing history, and the present popularity of its ascent.)

[7] See photograph (p. 267).

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thousands of feet toward the head of the glacier, and, as the slope toward the S.E. and S. continued at a high angle while that to the E. diminished, this northern edge took shape lower down as a ridge of snow—the beginning of the great E. ridge (or perhaps one should rather say, the end, above which it merged into the summit snowfield and rock wall). However, this ridge was not continuous, but broke off sheer in a face of rock;[8] down at the right[9] a small knife-edged snowy gap then led across from the side of the ridge to the upper face of the upper great tower already mentioned.[10] (That is, the E. ridge at this point made a jog to the right, or S.) The snowfield, snow-ridge, and gap themselves would clearly present no unusual difficulties; whether we could get from the gap up to the crest of the ridge could not be determined, but the presumption seemed to be in its favour, and clearly it was proper to take a chance on the possibility. The crucial matter was obviously the working over or around the great tower to the little gap. This face of the tower appeared perpendicular and very smooth; if we were to descend it a *rappel* would be necessary. But the height (we estimated it later at 250 ft.) seemed too great for any *rappel*, while the peculiar poise of the tower taken together with the slenderness of the gap made it questionable whether one could under any such method effect a landing at the required place. Clearly it would be necessary to turn the tower. It could with improbability be turned on the S., as it there bulged out and away from the gap. Whether there were ledges that would enable us to turn it on the N. could not be ascertained at such a distance. We pointed out to each other indeed such a suggestion of one as seemed to make this possibility a fighting chance, but the general sheerness of the walls gave small reason to hope continuous ledges could be found, or that if present they would debouch just at the height of the col where we needed them. We turned away with the whole matter assuming a most problematic character in our minds.

Our descent by the ordinary route, with its final tug up out of Bradley Canyon to the ridge whereon lay our camp, was laborious indeed. We reached camp by moonlight, and agreed that the next day should be devoted to a rest, before the climb itself was attempted. This proved unexpectedly wise, as during the early afternoon of that day a series of exceptionally severe thunderstorms swept over the peak. Later on, when they had passed away, I climbed up to the N. end of our ridge, where it overlooked the Teton Glacier, to reconnoitre the beginning of our climb, as we

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[8] Shown, in the photograph (p. 267), at the level of the upper tower and to the right of it, across the apparent snow patch.

[9] Left, in the photograph; *i.e.* to the S.

[10] This snowy gap is barely visible in the photograph. It crosses the apparent snow patch mentioned at about half its altitude. A tongue of snow at the right marks its end.

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had now seen as much as we could from a distance of its middle and end.

The E. ridge splits the small Teton Glacier, out into which it lies, and then continues in the form of a high medial moraine. From the top of this moraine, at the heel of the ridge, to the base of the lower great tower, where the major difficulties would begin, was a rise of over 2000 ft., broken into two large steps. The going did not promise to be difficult, as the ridge, although slabby, was broad and not very steep in this lower portion. I observed that a course, not directly up its crest, but a little below this to the S., taking advantage of a series of grassy ledges, seemed to offer the best possibilities for rapid progress.

At 6 the next morning, July 22, we left camp and descended to the Teton Glacier by a convenient sloping shelf used by parties visiting this spot.[11] This shelf, which is by no means easily discovered upon what seems the sheer face of a cliff, was shown to us by Altenried, who thereupon stationed himself at its head with the friendly intention of following our progress through a pair of binoculars. We crossed the southern arm of the glacier and mounted to the top of the medial moraine. Here, yielding to immediate appearances, we at first essayed an alluring chimney that ran directly up the heel of the ridge, but, as the rocks shortly became of a difficulty which would make them too long to negotiate at this early stage of the climb, we resigned ourselves to wisdom and returned to follow the diagonal course upward below the crest of the ridge which had commended itself to observation the day before. This brought us, in a couple of hours' simple climbing, to the beginning of a series of small gendarmes leading up to the first great tower. Here (8.45) we roped, and in a delightful succession of steps passed these gendarmes, going over some and turning the remainder upon one side or the other. Thus we reached the foot of the tower.

A close view of this now occasioned no agreeable disappointment, for it was indeed most forbidding. The only possibilities—very slim ones—of direct attack seemed to be afforded by the right wall, very steep but split by a number of fissures, and a chimney, capped by a chockstone and succeeded above by a crack, which faced the ridge as we had come. Either meant an extremely exposed climb of some 50–60 ft. until apparently easier going higher up the tower was reached. Having brought along rubber soles I was delegated to examine these possibilities. Working up a subsidiary crack to the foot of the wall, I soon discovered that the distances between its fissures bore no favourable relation to the arm and leg reach of a human climber. I then tried the chimney, where on account of wetness nails proved better than rubber, but after getting up

[11] This descent brought us somewhat below the level of our camp site. The total height of the climb was thus slightly over 4300 ft.

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to and around, outside of the chockstone, saw that the crack above was a desperate proposition. I therefore descended, and we agreed that our predecessors had done precious well to leave this tower alone. In our attentions to it we had expended over an hour.

Photo, K. A. Henderson.]

E. Ridge of Grand Teton from the N.

First tower in upper right centre; gendarme preceding second tower in extreme right.

Having been defeated in our attempt at a frontal attack, we now turned to strategy. A careful survey of the situation disclosed a narrow ledge, well down upon the ridge at our right (N.), which ran along to a corner where it disappeared from view; beyond the corner appeared a chimney of very rotten rock. We retreated along

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the ridge for a few yards, returning over one of the small gendarmes to a point where we could descend to this ledge by means of a short *rappel*.[12] (The rope-sling used for this *rappel*, cut off from a piece of lariat rope supplied us by Altenried in default of a proper reserve rope, was left behind and should mark the spot for a later party.) Following the ledge about 100 ft. to the corner, we now saw that this gave on a precipitous couloir filled with ice and hard snow. A dozen steps cut with the axe brought us across it,[13] and we proceeded to ascend carefully the short chimney of rotten rock beyond. A movement around to the right, out upon the face again, here brought us to another ledge, which was followed for some 75 ft. farther to a second and larger couloir. This last, below the point where we met it, was an awesome affair plunging directly to the head of the glacier, but above it was climbable over ice and loose rock to its rocky head, which in turn was then surmounted by a slight détour to the left to a deep cleft in the ridge *beyond* the first great tower. The initial difficulty was thus behind us.

From the cleft where we now stood the ridge rose toward the second great tower with a steepness and slabbiness that fully confirmed our distant impression of two days earlier. Henderson now took over the lead and gave a brilliant exhibition of slab climbing. Upon the first step, and once or twice thereafter in ticklish situations, it was advisable to steady the leader's feet. The steps were all long, and there was an absence throughout of adequate belays. This section, lasting for some 300 ft., after which the going became progressively somewhat easier for a like distance, is undoubtedly, from a technical viewpoint, the most difficult part of the climb. It would make an attempt to *descend* this ridge a very precarious proceeding (since the lack of belays precludes the use of the doubled rope).

We had now reached the foot of a gendarme which, with one or two others, stood as outposts of the second or upper great tower. In an attempt, first, to turn this on the right, we ascended in that direction until we could gain a view around upon that side of the ridge. It then appeared that our immediate flanking movement would not succeed, but we were able to determine our exact position and to discover, in pleased excitement, what seemed a possible key to the problem of the great tower itself. Ahead, at some distance, lay the little snowy gap, to reach which, we considered, would ensure the success of our climb. We could not espy a continuous route to it, but nearer us, along the right side of the great tower somewhat

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[12] The steps would have been climbable in the event of a re-ascent.

[13] Conditions in this couloir must vary greatly with the year and season. At times the crossing might be much harder. The most awkward bit is the swing downward and inward into the bed of the couloir from the corner where the ledge breaks off.

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below the level of the gap, lay an unmistakable section of ledge, such as we had scarcely dared hope for, which promised at least the beginning of the required traverse. The problem was, how to arrive at the start of this ledge, and the question, whether it would see us safely through to the gap, or leave us in the lurch at the critical juncture.

Redescending a bit we set about turning our present gendarme on the left. This promised to go easily, and we decided that the moment was auspicious for a rest and lunch (12.30–1.00: this was our only halt during the 10 hours of the climb). Continuing, we rounded the gendarme and, at Henderson's suggestion, climbed up to and crossed the little notch between it and the next, thus returning to the N. side of the ridge. We proved to be at the right spot, for a short and not difficult descent, using one (unnecessary) *rappel*, brought us to the beginning of our ledge. This we then followed, passing behind a curious detached flake of rock which had obscured a complete view of the ledge from our earlier outlook, to a point where it proved to terminate before an exposed overhang.

Psychologically, this remains in our minds as the crucial moment of the climb. What—whether anything—lay above and beyond the overhang we could not see. Should no further traverse here be possible our chances of passing the great tower were very feeble. A redescent over the slabs we had come up was not to be thought of with equanimity. I shall not, therefore, forget the thrill of exultation with which, pulling up over the overhang, I cast a glance beyond and called to Henderson that the day was ours. Ahead, a veritable *route à bicyclettes* sloped gently up to the exact beginning of the little snowy gap.

The little gap itself was sharp, but we found the snow in good condition. At its farther end steep but well-stepped rocks led up to the beginning of the high snow-ridge. At first we were able to keep to a narrow line of rocks at the right of this ridge, but soon we had to take to the ridge itself and almost continuous cutting became necessary. The snow varied considerably in consistency, but there were few places, especially after the ridge had steepened and merged into the general S.E. snowfield, where steps could be formed without some use of the axe. The ascent of that ridge—it represents a rise in elevation of some 600 ft.—seemed to us under the circumstances interminable. Again and again we estimated that two more rope-lengths would bring us to the summit rock wall, until after many disillusionments we gave up estimating and confined ourselves to the labour in hand. When we finally did reach the rocks, and Henderson stepped into the lead again, I had had quite enough of work for the day.

We had identified the chimney seen two days before from the summit and approached the rock wall with it as objective. A zigzag right and left now brought us into its foot. Three difficult steps followed, the second of them requiring a human ladder, and

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then we moved diagonally out to the right over easy rocks to meet the summit crest a few yards N. of the summit itself. At 4 precisely we stood upon this latter. It pleased us to suppose that a shot which rang out from the valley was in response to our gesticulations, but, alas, the matter was only a coincidence, for, as it turned out later, Altenried had lost sight of us early in the climb and returned to more profitable occupations at camp.

The day was perfectly clear, nor had there been any sign of bad weather throughout its course. (Indeed, the usual Wyoming afternoon thunderstorm would be a most unwelcome concomitant of a climb by the E. ridge, as there is no shelter along any of its upper reaches.) The view from so immense a height over a level plain such as Jackson Hole has frequently been condemned as featureless: it is set equal to that from an aeroplane and its object compared in appearance to a map. To me such a view is most fascinating. Unlike that from an aeroplane it possesses a solid basis and continuous foreground which maintain the relationship between the observer and the object observed at the same time that they remove the one from the other; the observer has the curious sensation of being both of the world he contemplates and yet not of it. And surely no one can fairly liken the infinitely varied shadings of lakes, plains, and forests with the stock colours of a map.

At 4.30 we started down. Knowing the simplicity of the ordinary route we had already taken off the rope and stowed it in a rucksack, and we now literally ran down the mountain, reaching camp again, with the toilsome climb up out of Bradley Canyon included, in exactly 3 hrs. Altenried had heard our call from some distance away and hot soup was ready for us. He accepted our return from another direction as proof that we must have attained the summit, congratulated us most heartily, and remarked: 'Now when you two fellows go down I'm going with you to back up your story. No one ever hesitates to call anyone else a liar in this country, and it's well known here that that ridge can't be climbed.' We were not unprepared to believe that his witness might indeed be essential to us, but luckily our return to Jenny Lake brought us at once into contact with Forest-Ranger Smith, himself a mountaineer, and Assistant-Park-Superintendent Bruce, who accepted our account without ado. We are most grateful to them for the cordial reception they accorded us.

As for the E. ridge of the Grand Teton, while judgments formed upon a first ascent are notoriously untrustworthy, and while the proprietary interest one takes in a peak with which one has struggled inevitably colours one's valuation of everything connected with it, we hazard the estimate that the route belongs in the class of about the 'Schalligrat' and 'Z'muttgrat.' No doubt later comers will eventually reduce it to an everyday affair, but at the moment its existence and practicability should initiate a new cycle in the mountaineering importance of the Teton.

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Mountaineering in the Caucasus, 1929.

By UGO DI VALLEPIANA.

The most difficult part of the expedition, and one which gave us the most worry and trouble, testing our patience to the utmost, was the obtaining of passports for Russia. We had decided to start on July 1, but mid-June saw us still waiting and wondering whether we should not arrange another trip on more modest lines. At last, however, through the kind offices of General Vacchelli, Commissioner Extraordinary of the Royal Geographical Society of Italy, of Signor Cottini, Federal Secretary of the Milan Fascio, and of Signor Grassi, Vice-President of the Milan Section of the Italian Alpine Club, the long-wished-for permit was granted, and our kit being ready, we were able to take the train on July 1 as previously arranged.

To insure the success of a trip of this kind, two essentials are called for; first and foremost the choice of one's companions, and in this I could not have been more fortunate. The initiator was Signor Leopold Gasparotto, a lawyer, of the Milan Section, and Mr. Ralph Herron, of the Florence Section, both Members of the Italian Academic Alpine Club. To these were added a Bavarian named Rolf Singer, and myself who for many years, indeed from the time I was a student, had longed to make such a trip. Perfect agreement reigned between us, greatly contributing to the successful issue of the expedition. The second essential is the knowledge that one has everything necessary and nothing superfluous, for the great enemy is weight. The four of us had not more than 350 kilos of luggage among us, divided up into 12 sacks and one case. It included a tent for the base camp, two small tents, rations of foodstuffs and sea-biscuits sufficient for 30 days, Primus stoves and petroleum (this we had bought in Russia), photographic cameras, personal effects and mountaineering kit. Little though this might be, I should probably take less were I to repeat the trip, a thing I hope to do at some future time.

During the railway journey we took advantage of the various stops, when trains had to be changed, to pay a flying visit to a few of the towns passed through, employing speedy motor cars. Thus we now have a nodding acquaintance with Vienna, Cracow, Leopoli and Kiev. On July 8, at 3 o'clock in the morning, we reached Naltshik, the last station to be found on the northern slopes of the central group of the Caucasus. Our usual Sunday trips had sufficiently hardened us to stand the seven days' journey in a third-class compartment.

To the S., at four days' march, a silver altar sparkled in the distant dawn, as if seeking to defend itself from the unhallowed

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Photo, U. di Vallepiana.

BOGKHOBASHI
from the *Point of the Italians.*

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eyes of the madding crowd. A majestic triptych, upreared upon a dull green tableland of low-lying hills, stood clear-cut beneath the sky of two continents: Dychtau, Koshtantau and Giulchi. The last of these three peaks seemed to seek a unique loneliness, surpassing all its rivals with its beauty. Hitherto the lure had been the renown of its enchanting loveliness and its dauntless resistance to man. To us profane mystics, the object of our desires appeared even more beautiful and grander than we had ever dreamed, while, despite the distance, the difficulties besetting our path to the summit could be anticipated if not actually seen. Thus, at first sight on a dewy July morning of 1929, did our goal impose respect. Nor could it be otherwise, for it was quite impossible that the chief summit of a separate group of mountains, hitherto unscaled, should not contain in itself all those virtues that the mountaineer seeks. One cannot conceive an important conquest without a struggle.

'The noble peak of Giulchi' is the expression used by Freshfield.[1] The history of the early explorations of the high Caucasian peaks is interwoven with English names. Nevertheless, among them is one noted and dear to us Italians: Vittorio Sella. After the war[2] came the Germans and a fearless band of Italians. The first attempts on the highest peaks were made in 1868, when Kasbek and the E. summit of Elbruz were scaled by Freshfield; six years later, in 1874, Grove reached the W. and higher summit of Elbruz. Then came the turn of Koshtantau, Shkara, Dychtau and Ushba and, little by little, all the central range was explored, as were also the chief summits of each single group. One only did man leave untouched. To the E. of the Cherek, in the wild Balkar district, springs an interminable row of crests. They are the beginning of the Giulchi-Sugan group, a spur of the main chain, facing at its E. end Stir-Digor on the left bank of the River Uruk. To the N. the mountains sink towards the plain, but before ceasing

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[1] I may be allowed to call attention to the fact that I was, on my first visit to the Caucasus in 1868, so much attracted by the picturesque shape of Giulchi that I made a sketch of it which appears on p. 411 of my *Travels in the Central Caucasus* (Longman, 1869). In the Appendix to *The Exploration of the Caucasus*, 1896, I made the following reference to Giulchi (vol. ii, p. 269):—

'Giulchi, 14,680 ft., is a fine mountain very precipitous towards Karaul, but probably accessible by a glacier on its S.E. face that is drained by a torrent forded at the W. foot of the Shtuluvsek. It culminates in two snow-points and a rock of almost equal height. It may be accessible on the N. side, of which nothing is known to climbers.'—*D. W. F.*

[2] *Previous* to the war, among others Herren Rickmers and Pfann led very successful expeditions, as did Signori Piacenza and Ronchetti.—*Editor.*

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altogether, they split up into several minor groups, flinging upwards long dolomitic walls, of over 3600 m., capped by towers, pinnacles and gigantic castles. Sella declared that he had been greatly impressed in 1889 by this group of high mountains covered with massive glaciers and beetling cliffs lying between Digoria and Balkaria. Above Stir-Digor are to be found the lower crests, gradually increasing in height, appearance and difficulty till they reach the dominating mass of the Bogkhobashi Mountains, the bold Doppakhntau and the lofty Sugan, ascended by Sella in 1896.[3]

The chain is divided into two parts. To the W. of Sugan, 4490 m., a deep depression separates this group from that of the Giulchi lying still further to the W.

It is the Urziwachi Pass, an attractive col, covered with the only easy glacier in the neighbourhood, a fine open stretch from which flows an enormous river of ice strewn on its lower slopes by detritus, gradually collected from the glaciers on the E. slopes of Giulchi. From the said col a valley takes its name, running almost in a straight line as far as Balkar. The two systems are therefore quite distinct and separate. The region is vast, yet it was only in 1909 that Professor Vittorio Ronchetti, with Dr. Colombo and the guide Confortola, made the welkin ring with the music of his iron-shod mountaineering boots as they struck the rocky crags of the Urziwachi. He then made his way over the glaciers towards the ridge away to the N. of Giulchi. But fortune was unkind to him, and he had to resume his march towards the distant Adai Khokh by way of the Urziwachi Pass, after having climbed a point standing immediately above it. The Urziwachi Valley had yielded its secrets, but though Professor Ronchetti returned several times it was neglected by both explorers and mountaineers, and there is not more than the slightest reference to it in any of the works of Freshfield, Grove, Déchy, or Merzbacher. It was now left to us to complete the good work begun by others.

Naltshik is too small and uncivilized to be named a town; it is too populous to be called a village. To-day it is reached by rail, but beyond the station, immediately after a small beflowered square has been passed, there is no sign of a road, but only a vast stretch of waste land ploughed into deep ruts by the local carts.

With respect to the principal chain, Naltshik is in somewhat the same position as Ivrea is to Mont Blanc. There is some sort of a tourist organization, viz. two so-called 'bases' that are something between a very humble inn and a mountain hut, standing in the middle of the town. One of them is run by a Touring Agency, the other by the Proletariat Excursion Society. We put up at this latter place and received every attention. At these 'bases' are to be found some fine types of Soviet tourists. It is necessary

[3] *A.J.* **18**, 473; **25**, 462; the latter furnishes many valuable references.

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to bear in mind that touring and mountaineering in Russia, with very few exceptions (from what I have seen there are extremely few real climbers), are most primitive, both with regard to equipment and ideas. We seem to be back in Toepfer's times, when a mountaineering excursion meant nothing more than a walk to see the scenery. These Russian tourists are extremely sociable, not only with the very occasional foreigner with whom they are glad to carry on a long conversation, ending, however, always by becoming political propaganda, but also among themselves. They usually make their trips in large parties, and pretty nearly always go in couples, the lady partners being very useful, if for no other reason than in preparing the meals!

We lost a day searching for a kind of touring permit which we could very well have done without. Then one morning we loaded our belongings and ourselves on to a characteristic little springless cart and set off. The journey was not over long. It lasted about two days, but was so varied and interesting that we never had time to get bored. The road was every now and again broken by some torrent or river in whose waters herds of lazy buffaloes sought to cool themselves and to escape from the intense summer heat. The crossing of the rivers always presented, I will not go so far as to say grave anxiety, but, at least, much uncertainty. If we had to ford them, it usually happened that in mid-stream the horses refused to budge further. On the other hand, where torrents were crossed by bridges the latter were so badly put together and swayed to such an extent that we feared they would collapse.

We spent our first night by an idyllic little lake, similar to those on the Carso, thence we continued on our way, occasionally passing natives who seemed to ignore the invention of the wheel, for they made use of a kind of rough sledge. Later we entered a deep fantastic gorge leading to the secluded Balkar district and Kunnium, the last village of the Cherek Valley.

Here we were received with every kindness by the Mayor of the place (*Ispolkom*), who took a lot of convincing that we were Italians and not Germans. I say 'a lot,' because in Russia, and especially in the Caucasus, they regard all foreigners as Germans owing to the numbers who go there. For instance, this year no fewer than five German parties were expected, though only two of the expeditions came off. The Mayor gave us the choice of two forms of accommodation, one on payment and the other free. We chose the latter, and, therefore, installed ourselves in a schoolhouse, quite deserted at this season. We were, of course, the object of the most curious attention on the part of all the boys and girls of the village, for whom everything we did was a cause for wonderment or merriment. However, they were not long before they decided that we were no different from other men, and left us accordingly.

Kunnium is a typical village of this part of the N. Caucasus. It certainly cannot be called beautiful. Built of puddled earth,

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the flat roofs of the houses are of the same colour as the ground, which renders them almost invisible, even when quite close. An aeroplane could easily fly over the village without discerning the slightest sign of habitation. The buildings, save for a couple of more modern erections used as a school, council chamber, etc., have all the characteristics of the houses of Central Asia. There are, however, a few peculiar towers, some of which in former times served for defence and others as tombs.

In some respects Kunnium may be regarded as an industrial centre, though it must be clearly understood, on a *very* small scale indeed. There are any number of extremely primitive water-mills and a few hand-looms. What the former were for I could not find out, for the entire countryside is so poor and bare and the rye-fields so few and far between that a couple of hand-stones, as used in Abyssinia, would suffice to grind all the flour these people might require. Weaving is a domestic industry, the women making a rough kind of cloth similar to that produced in Sardinia, where it is called *orbace*.

The origin of these mountain people—called sometimes Mountain Tartars—is obscure. They are generally held to be a Turkish colony from Central Asia interpolated between the Ossetes on the E. and the Kabardan Circassians on the W. By religion they are Mohammedans and look to Mecca as their spiritual home. They seem—the men at least—to have lost the traditional jealousy of their race. Indeed, on several occasions we were able to take photographs of their womenfolk, few of whom could lay claims to beauty. They showed, however, a feminine desire to look their best, several of them rushing to their homes to get some personal ornament such as a silver belt, while the men showed much pleasure in our admiration of their womenkind. They are, as a rule, very fine fellows. Perhaps the hard life they are obliged to lead has something to do with it. All, however, have a certain air of dignified pride natural to the Oriental living far from the seaports. Once a week the Mayor calls a meeting of the notables of the village, and since all consider themselves such, the result is a general assembly in the most absolute sense of the word. It offers an unequalled chance for studying local types and for taking photographs. In accordance with ancient tradition the men would like to go about armed, but being no longer allowed by Moscow to carry guns, they content themselves with wearing Cossack cartridge breast-belts and a broad dagger something between a long knife and a sabre. From my own experience, however, I found them the most peaceful and kindly people in the world.

It may be remembered that they refused to join in any of the struggles for freedom made by their neighbours in the nineteenth century.[4]

[4] See *The Exploration of the Caucasus*, i, 162.

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To convey our belongings to the base camp it was necessary to provide ourselves with donkeys. The word having gone round, a dozen, at least, were brought for our inspection, each more bandy-legged and worn-out than the other. Bargaining was a long job; at last, however, all was settled and three of the animals, which turned out to be even worse than they looked, became ours. We left some of our luggage behind at Kunnium, not wishing to overload ourselves needlessly. We set off over the first bare slopes, then for a day and a half we followed the Urziwachi Valley, where at about 2400 m. we pitched our base camp, sending back our donkeys in charge of a driver who had followed us to this point.

Giulchi reared its lofty head above us, and as our aim was to climb it, we at once turned our undivided attention to it. As previously stated, it was the most important unclimbed peak in the Caucasus. I say the most important inasmuch as it was the last peak, the chief summit of a group standing by itself that had so far resisted the repeated attacks of preceding parties. Indeed, only a few days previously to our assault a climbing party of three Germans, whose tracks we found on the glacier, had renewed the attempt but had not succeeded.[5] The first few days were spent in spying out the lay of the land and trying to find out which side of the stronghold offered the fewest difficulties. We soon convinced ourselves that the way others had declared to be the easiest, viz. the N. arête, extremely long and serrated, was not suited to our purpose. Then one fine day, after having climbed up to an unnamed saddle christened 'Forcella Sugan,' joining the Urziwachi to the Psegan Valley, we thought we discerned in Giulchi, rising before us, the weak point we had been seeking for so many days: the S.E. face. This is a huge wall of ice rising from a col which we named the Giulchi Pass. The approach was not easy owing to the number of crevasses in the way. The face or wall itself, that is to say the part rising from the col, is about 500 m. high and leads to a kind of saddle situated between the peaks of the mountain. From where we stood the face of the wall appeared to be frightfully steep, but a more careful examination revealed a kind of gangway amid the séracs by which one could climb. We decided accordingly to make the attempt. Following the best traditions of warfare the attack, after this accurate preparation, was carried out with the greatest determination.

On the 24th our two small advanced camp tents were pitched on the Giulchi Pass at about 3900 m. It was a wonderful night, and although the nearness of battle warned me that it was wiser to take advantage of the few hours' sleep that the short night allowed, I felt too happy not to want to enjoy things awake. At 3.40 A.M. we were already on the move, and then by dint of hard climbing and the use of our crampons, found ourselves on one of the two

[5] *A.J.* 42, 102.

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peaks at 9.15, whence we soon climbed on to the other. The highest peak (4475 m.) is the rocky one, and on this we erected a cairn. The other two snow-clad peaks vary in altitude according to the thickness of the shelving corniche; therefore the rocky peak must be reckoned the summit. We stayed up there more than two hours in order to enjoy the view which, perhaps, we might never see again, and then, returning by the way we had come, regained our tents in fairly quick time. During the descent we had twice to lower ourselves with the doubled rope on the glacier, because the sun had partially destroyed the steps previously cut and rendered dangerous and insecure the enormous séracs among which we were descending.

To express any opinion as to the difficulty of the ascent is not easy because, as is well known, every first ascent, especially in a completely unknown country, offers a number of general troubles which greatly influence one's opinion as to the degree of real technical *difficulty*. Moreover, one does not go to the Caucasus with a view to accomplishing purely spectacular ascents. The aim is far higher and the satisfaction gained of quite another nature. However, I think the climb may be likened to that of Mont Blanc by way of Mt. Maudit, or perhaps Monte Rosa by the Macugnaga face, with this difference, that the descent must be made over the same ground as the ascent. Furthermore, it is necessary to bear in mind that all ascents in the Caucasus, especially if made, as in our case, without guides or local carriers (who do not exist, and if they did, would be useless for lack of the right footwear to reach any higher ground than the upper camps), have to be made while carrying full kits. Setting up an advance camp means loading oneself up with sacks weighing 40–45 lbs. Ascents, too, the length of which cannot be known beforehand, must never be attempted without providing oneself with the necessaries for an unforeseen bivouac.

Moreover, in such slightly illustrated country, the photographic side is far more important and interesting than it is in the Alps. Indeed, I might almost say that whereas with us, owing to the magnificent photographs available everywhere, one has scarcely any wish to take photographs, in the Caucasus photography becomes a necessity. It is natural, therefore, that a fairly large camera should be taken, and this, of course, will add materially to the dead weight to be carried on one's back. Personally, I greatly regret not having taken with me a long focus camera, though I did take a 9 × 12 instead of my usual smaller apparatus.

On our return to the Giulchi Pass, one of us began to suffer from inflammation of the eyes. As the victim was obliged to lie up, I set out on the following day with my friend Gasparotto to climb the rocky height standing opposite Giulchi and S. of our col. It is an extremely beautiful peak and reminds one of the Matterhorn from one side and of the Crast' Agüzza from the other. From the

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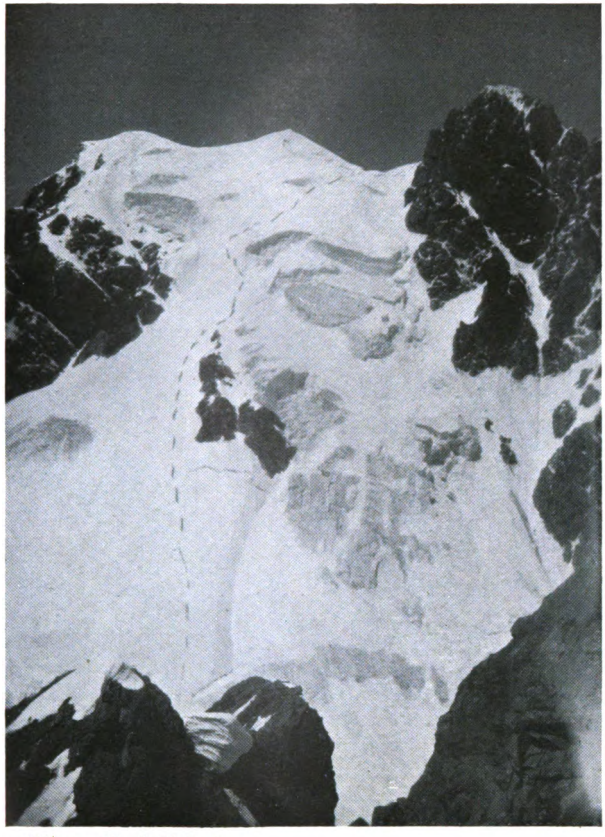
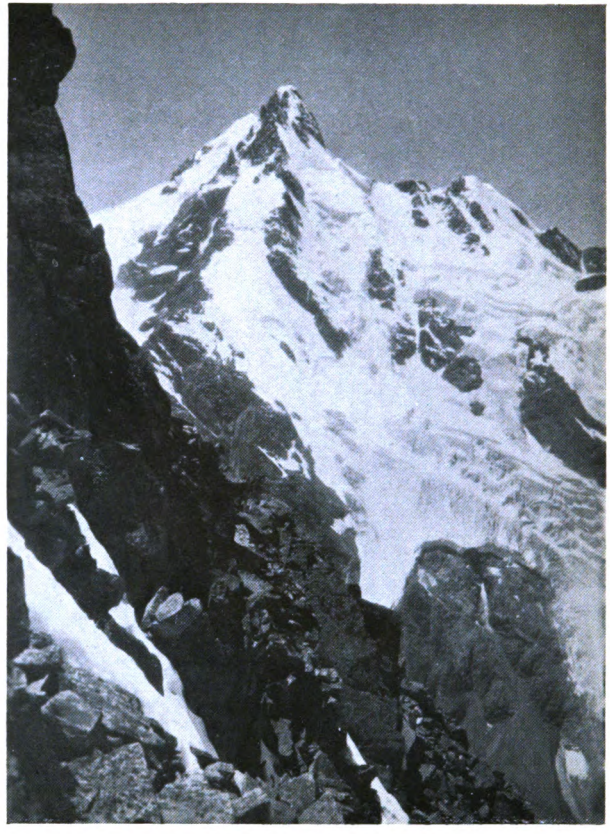


Photos, U. di Vallepiana

GIULCHI from "PUNTA RONCHETTI."
(Showing Route.)



GIULCHI from SUGAN Pass.

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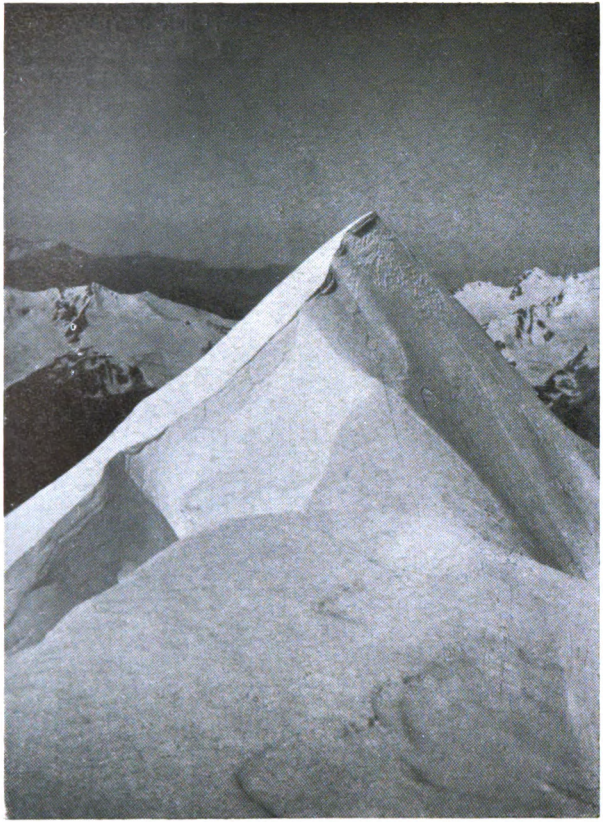
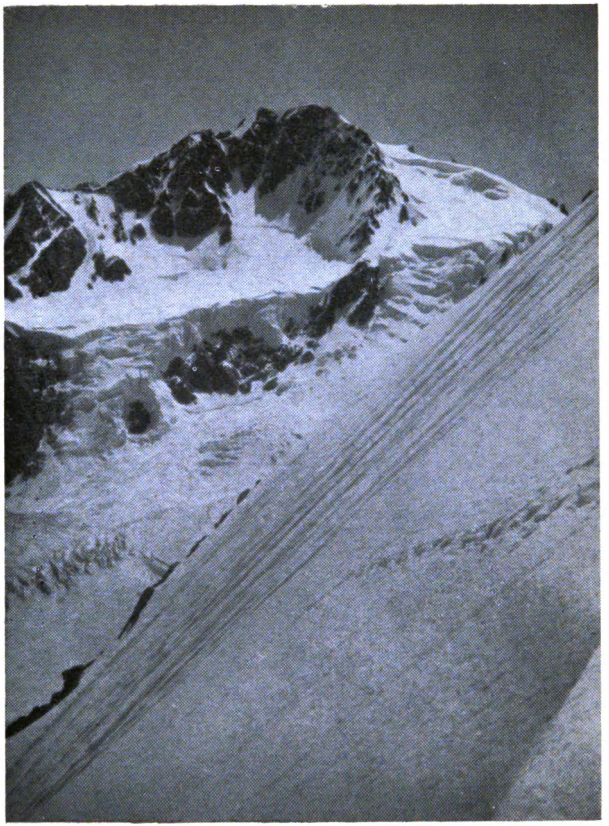


Photos, U. di Vallepiana.

GIULCHI, Snow Peak
(from the Rocky Peak).



SUGAN from "RONCHETTI Pass."

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beginning of our early explorations we had eyed it longingly. Starting from the Giulchi Pass, we passed on to the glacier round the N.E. face, then through séracs and a steep slope of ice reached a col, whence we went E.N.E. along the crest and over some interesting rocks, one of which we called 'The Bronze Horse,' [6] arriving on the summit (about 4200 m.). To it and to the col below we gave the names of 'Punta' and 'Colle Ronchetti,' [7] in honour of the Italian who first examined the possibilities of climbing Giulchi. 'Punta Ronchetti' provides a magnificent view; Giulchi, just conquered, is especially well seen. We never tired of photographing it from every possible standpoint: sometimes shining clear, at others veiled by mists. The face of Giulchi climbed by us, when seen from opposite appears almost impossible: in any case, much more difficult than it really is.

How long did we stay up there? Who shall say? But we suddenly perceived that it was becoming late and had to beat a hasty retreat. 'Punta Ronchetti,' considered in the same light as Giulchi, may be compared to the Matterhorn from the Swiss side.

The day following, viz. the 27th, we struck our Giulchi Pass camp and returned to the base. The descent was far from easy, both because the bridges over the crevasses had been worn away by the hot sun and because our companion, whose eyes were still bandaged owing to the painful inflammation, had to be guided by touch and helped with ropes. Only where the route was more than usually difficult and dangerous did he force himself to keep his eyes open.

At the base camp, a place of sheer delight, of sybaritism, of hyper-nutrition and . . . shaving, we found a party of Russian excursionists who were very kind and very simple, but extremely badly off for equipment. They took the most lively interest in our mountaineering outfit. For our part we were much more interested in the kitchen, for we had been living on the holes of our belts for some time and were eager for a good square meal.

When we had been prospecting around for a route up Giulchi we had noticed, facing the Sugan Mountain and not unlike it in shape, a fine isolated peak seeming to afford an excellent coign of vantage whence to observe the surrounding country. By common consent we named it the Little Sugan. Its height, as given on the map, is 3900 m.

On July 29, after having crossed the previously attained Sugan Saddle, I climbed Little Sugan by the W. arête with Gasparotto and Singer, taking a rather fine obstacle in our stride. On our

[6] A tooth on the summit ridge of Monte Disgrazia is thus somewhat fancifully named.—*Editor.*

[7] These 'personal' and 'Italian' names were given doubtless for the convenience of the party only. They are most unlikely to be perpetuated on any Russian map.—*Editor.*

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return we pitched camp with the intention of continuing to Sugan on the following day, but the weather, which was decidedly bad, drove us down. So we returned to Kunnium to enjoy the favours of civilization, materialized by fresh eggs and pipe tobacco supplied to us by an old Persian trader stranded there by some freakish whim of fate. Just at this time a most happy event took place; 'happy' in the real sense of the word, for one of our donkeys presented us with a descendant, thus increasing the number of our family.

Here the party divided: Herron and Singer wished to cross the main chain and make a trip into Suanetia. Gasparotto and I had still an old score to settle in the high Psegan Valley. From the top of the Little Sugan we had discovered another mountain, some 4300 m., and unmarked on the map. In short, it was what might be called a pure virgin, a species daily becoming scarcer among Caucasian peaks.

Consequently, on the morning of August 1 one of our donkeys was laden with a light tent and stores for a week, and we set off on our way. We passed through a wide grassy col, rich in pasture-land and enclosed on the N. by a characteristic wall of a typically dolomitic nature. It stood out in strange and striking contrast, making us almost believe we were on the Sella Pass admiring the E. face of the Langkofel. From here we made our way, drenched to the skin by numerous showers, into the Psegan Valley. Near the ford of a mountain torrent we found a group of wandering shepherds. Their most striking feature was their absolute lack of curiosity. One might have thought they had done nothing but meet mountaineers during their wanderings. I cannot even say that they deigned to glance at us; what they did do was to pass as if we were invisible, and as if they had learnt from their peregrinations that nothing exists at all. I could not help contrasting their behaviour with that of some of the folk staying in our villages even to-day when climbers are about, and I came to the conclusion that I preferred the nomads.

We continued on our way up the valley; a deserted sheepfold seemed to offer us shelter but it was too dirty, so we pursued our way until 7 P.M., pitching our tent at the foot of the glacier. Nearly every stitch of clothing we had was soaking wet from the rain, but next morning a luminous dawn and a fantastic view of beetling peaks, almost unknown for the greater part, fully repaid us for our toil and wetting. Whilst Gasparotto undertook the thankless task of striking the tent, loading the moke and seeing to everything being carried higher up, I, with the excuse of photography and of seeking a route leading to our unknown peak, slipped off to explore among the crevasses of the glacier over which were scattered huge erratic boulders. Unusual gaiety marked my return, for I had found a practicable way up the mountain and Gasparotto had both the camp and supper ready.

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On August 3, at 2.45 A.M., we started first by way of the moraine of the glacier, then up a precipitous slope followed by an awful stretch of loose stones, and finally along an inclined channel running through mounds of débris. This brought us to a col in the N. arête of our peak at a height of about 3900 m., which we called the 'Col of the Italians,' as we were both of that nationality and the first to stand there. To the S. our peak, festooned with snow and corniches, rose high above us. To the N. were grey bare mountains characteristic of Central Asia. The peak we wished to climb appeared to divide two worlds. We descended on to the glacier from the opposite slope and then, having crossed it, came to a ridge which, though easy, was dangerous because of terribly friable rock. This led to the upper plateau forming the summit. As seems to be usual in the Caucasus, there were two summits instead of one, so we climbed both: the 'Point of the Italians,' about 4200 m., was conquered. From 11.30 till 1.45 in the afternoon we stayed up there to enjoy our victory, the blessings of height, of absolute solitude and the view of the Doppakhntau and Bogkhobashi. For the present there is no need to be afraid of cutting oneself with pieces of broken bottles! With a glance of farewell we began our descent, reaching the tent by 7 P.M.

After a day spent in rest and photography, we returned to Kunnium where we sold our moke for a mere song. What a job it was to get rid of the natives who flocked round us, envying and admiring our mountain boots which they wanted to buy at all costs! Taking one of the usual little carts, we made our way to Naltshik. Along the road we met some workmen to whom we offered cigarettes. In exchange for our kindness one of the men donned a fearsome kind of devil's mask and improvised in our honour a *saraband*, consisting chiefly of wild jumping and much skipping about.

At Naltshik we separated. My engagements called me back to Italy. Attractive as was the idea of ascending Elbruz on ski, the wish to travel through Russia as far as Moscow and St. Petersburg and see a country organized on lines so different from ours, was even stronger. Gasparotto thought otherwise, and so was obliged to complete the first ski ascent of Elbruz, 5629 m., without me. As I took no part in the venture I cannot say anything upon the subject. The only thing I will state is that to him and to him alone belongs the honour of this first ski climb. It is true that in 1913 two Swiss made the attempt, getting no farther than the col between the two summits.

The valley leading to Elbruz differs from others on the N. of the Caucasus, not only because it is in parts rich in tree growth, but also because some of the native buildings greatly resemble our Alpine cottages. Besides, this district is relatively the most frequented, so much so that there is a 'base' at the end of the valley belonging to the Soviet Club, and on the shoulder of Elbruz, at about 4000 m. up, there has been erected a primitive sort of

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hut. Gasparotto, finding himself friendless, as Herron and Singer were late in getting back from Suanetia, made the first attempt alone, reaching a height of 4900 m. by way of a difficult glacier beyond the Priud hut which, he tells me, is somewhat like our 'fixed bivouacs' in the Alps, without, however, their equipment. Bad weather drove him down again. Meeting with two Austrians, Slezak and Tomascek, he arranged to make the attempt with them. Thus on August 13, after overcoming many difficulties, he set foot on the second summit of Elbruz, the highest mountain in Europe: a 'first' ascent on ski.

I had been touring meanwhile, visiting the chief towns of Russia and highly interested in the many things I had seen and observed. On August 24 I got back to Milan and, on the Monday, the 26th, resumed my daily occupation; for the superiority of mountaineering over all other sports is that it never becomes, and, let us hope never will become, however mildly, a profession. It offers no scope for profit, only a means of obtaining perfect satisfaction.

[We wish to express our indebtedness to Count di Vallepiana for his interesting paper.—*Editor*, 'A.J.']

VARIOUS NOTES.

The South-East Face of Mont Maudit.

The bad weather of August 1929 disappointed a number of mountain lovers eager to make big ascents in the Alps, but fortunately an unusually long spell of fine weather was enjoyed almost at the end of the season. At the beginning of August my friend, Mr. F. S. Smythe, attempted to work out a new direct route up the Italian precipices of Mont Maudit, with Messrs. Parry and Harrison of the Scottish Mountaineering Club. They bivouacked at about 1000 ft. up the cliff, but, assailed by a heavy snowstorm during the night, were forced down to Courmayeur at daybreak. On the moraine on the E. side of the Brenva Glacier, Mr. Parry had the misfortune to hurt his knee so badly that he had to be carried down to Courmayeur. Two days later it was arranged that I should take the place of Parry, but owing to continuous bad weather, I was unlucky enough to be unable to make the trip in such congenial company. This intended expedition ended gloomily, and a disheartened party returned to England.

On my arrival again at Chamonix at the beginning of September, I heard that some Italians were after the same climb.[1] The weather

[1] The first ascent was made on August 4, 1929, *A.J.* **41**, 403.—*Editor.*

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had been splendid for days, and snow and ice conditions seemed so ideal that I got busy getting into training by traversing the Grépon and the Drus with an excellent Zermatt guide, Gottfried Perren, with whom I had frequently skied and climbed, after which we determined to try the Italian face of Mont Maudit together.

Saturday, September 14, witnessed our departure from the Requin Hut in glorious sunshine, whence we proceeded over the Géant Glacier to the Col de la Tour Ronde, intending to cut steps over that col down to the Brenva Glacier. Since August snow and ice conditions had changed for the worse, and the traverse of this col was out of the question. We then decided to go over the *Col Occidental* instead. This was also pretty bad; and we went farther N. to try the bergschrund; there a feeble ice bridge which, on being tested by Gottfried, collapsed as expected, but moving still farther N., we found a more or less secure bridge. Gottfried was now furiously cutting huge steps traversing the steep ice-slope of about 65° towards some rocks on our left. Meantime, I was getting uncomfortably cold in spite of the autumn sunshine. In due course the whole length of a 65-m. rope was stretched tight and the guide began to help me up. As we got higher, ice and snow conditions improved, and hard stamping on splendid snow kept me quite warm. Owing to our late departure and the bad conditions of the séracs above the Requin Hut, we did not reach the col until 2.30 P.M. Now the weather was changing rapidly; the tops of Mont Blanc and Mont Maudit had disappeared behind clouds, and we gave up all idea of descending right down to the Brenva Glacier. We followed the same way down as a month before, when Professor T. Graham Brown was with us investigating the Brenva face of Mont Blanc. As my guide generally cut the steps on our upward route, it was my job to cut them on the downward. It began to snow a little, and we gave up step-cutting when we had crossed the couloir, as the angle looked much more gentle and we thought it unnecessary. This is the best viewpoint of the S.E. face of Mont Maudit.

On the Géant Glacier, before reaching the Col des Flambeaux on the way back to the Rifugio Torino, we were caught in a heavy hail-storm. At the hut the keeper told us that three Italians had made a new route up Mont Maudit,[2] but no details of their route could be obtained. We were told also that one of the Italian party was in hospital at Aosta for treatment of frost-bite in his fingers and toes.

On Sunday Gottfried dashed down to Courmayeur to attend church, returning in the extraordinarily quick time of 3½ hrs., as he did not want to be seen by Fascisti! We discussed our route and worked out four different possible ways up our proposed face, but we agreed to begin on the right (E.) of the central couloir and finish up somewhere on the right of the summit ridge (a good way

[2] *A.J.* **41**, 403.

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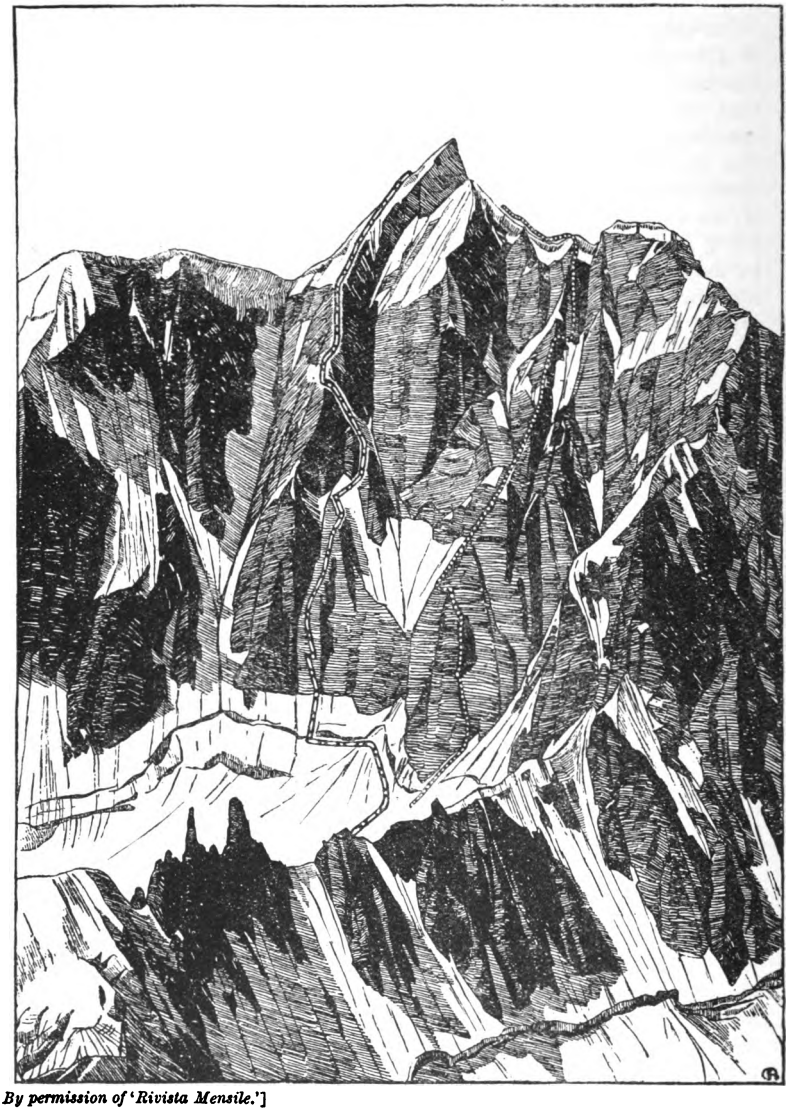
to the E. of Smythe's planned route). We knew it would be very hard going at the beginning and end of the rocks, but in the middle, once we had gained the small ridge, it appeared to become



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MONT MAUDIT, S.E. FACE.

'Chabod' route (left), 'Kagami' route (right).

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easier. The great peaks were free from clouds; the barometer kept steadily high.

At 3.10 on Monday morning, September 16, we left the hut under a clear starlit sky. The silence between us showed the impressiveness of our task. The big steps we had cut on the Col Occidental [de la Tour Ronde] were covered with new snow, but they only needed clearing. Rock-climbing in the dark with a lantern is not pleasant. When we had gained the col, light began to show in the east; hurrying across the couloir on the Brenva Glacier side, I cut small steps down to the glacier itself. We proceeded to the foot of our red granite face some 4000 ft. high, and there hunted for an ice or snow bridge over the huge continuous bergschrund: but there was none. Finally, we decided to jump over the gap, which was at least 9 ft. wide and very deep. Neither of us liked the look of it, and we tossed up for the first jump. I won and Gottfried prepared for the leap, while I stood ready to hold him in case he slipped; we also lowered a second rope down on the chance that it might help him to clamber out if he fell into the chasm. Gottfried got over, and, after sending the sacks across and enlarging the landing-place, my turn came. It was the biggest jump I have ever made over a crevasse, and had not the landing been a little below the take-off we would never have got over successfully.

Looking up from the Brenva Glacier at the height of 3500 m. (the foot of Mont Maudit), the rocks on the left (W.) side of the central couloir appeared much easier than those on the right (E.), but I was glad we were not on the left side, as from where we stood we could see the true angle of the nasty buttress. We began our climb straight away, as it was now after 7 A.M. and small stones were falling continuously in the couloir. Had we begun on the other side, the traverse of the couloir to the sheltered rib might have been impossible. The stones whizzed through the air on our left, but happily we were in absolute safety. We began climbing slowly on firm granite; in a way it was too smooth and gave us a lot of difficulty, so Gottfried accordingly changed into *Kletterschuhe*.

On this ascent one has to be prepared to face hard climbing on awkward rock almost all the way, but the face is safe from the danger of falling stones.

At the beginning of our ascent the best route lay to the W. towards the central couloir, as the E. couloir was much too precipitous. After 800 ft. of climbing we came to an *impasse*; an overhanging crag above and smooth slabs to either side. We *descended* a rope's length, finding a hand-traverse to the left for about 30 ft., then up again, following an almost vertical chimney with sufficient room to wedge a knee. We had already struck three chimneys where we had to go up without our sacks and haul them up afterwards, but this step was the toughest proposition of all, surpassing anything on the Petit Dru, as the rocks were icy in

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parts and provided with only tiny hand- and foot-holds. I gave Gottfried a shoulder, but after one attempt he came down for a rest before making a fresh start. Tea and biscuits reinvigorated us. I suggested fixing a piton in the rock, but Gottfried sportingly wished to have another try without it. This time he went a little higher, but after a while I heard a sudden loud shout from above: 'My fingers don't shut or open!' I guessed what he meant by it and made the rope very secure. He told me afterwards that it was the first time his fingers had been affected with cramp when climbing. He fortunately wedged his knees and was able to support the weight of his body. Soon he started again and in a few seconds was up. The sacks (and myself) were then pulled up. We had now reached the commencement of the intended rib, and we could perceive the right-hand or E. couloir where water melting from a corniche above was pouring down. As we expected, the climb on the rib was not too difficult, as the rocks were excellent, and I took the lead in order to give Gottfried a rest. We occasionally struck snow patches, and Gottfried changed his *Kletterschuhe* to ordinary boots, thus affording me much relief as I had to carry them!

By noon we had reached the end of the rib and were just below a huge square tower of smooth-faced rock. To continue straight up was impossible, and we surveyed the prospect while making a short halt. We had previously picked out this obstacle from the Rifugio Torino through a powerful telescope and thought we could detect a possible chimney on its right, but it was hidden behind the corner, and the job was to locate it. After a short rest and erecting a cairn (about the fifth we had built), we *descended* a chimney leading down to our right-hand or E. couloir by means of an 180-ft. spare rope. A traverse along the face still to our right leading into the couloir took us fortunately to the right spot. Here was the chimney we expected, but it was clogged with ice. For the fourth time Gottfried climbed on to my shoulders. (Later, at the corniche, I had to act as footstool for Gottfried for a few minutes before the overhanging snow could be hacked away.) Looking up from the top of the chimney a corniche of enormous size led right along the sky-line, a most impressive sight. Taking turns, we began cutting steps in hard ice, zigzagging up to the base of the corniche where we struck better snow under the overhang. Right or left we wandered along the wall trying to find a spot, whence we might gain the snowfield above. On our right there was no accessible place in sight, so we had to go round to our left, coming across projecting ice half-way up on the wall. Gottfried conquered the icy step by standing on my shoulders.

By 2.15 P.M. our difficulties were over, but had it not been for the skill and energy of Gottfried Perren the attempt would have ended in failure. On the upper ridge we had hoped to take our first good rest, but it was not to be, as bad weather was coming up over the Gran Paradiso. We raced up to the summit, arriving

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there at 3.20, and thence descended straight down to the Col du Midi without going round the Col du Mont Maudit. The crevasses were very open beyond the Cabane du Midi, and heavy hail was encountered thenceforward.

Snow fell throughout the following day.

T. Y. KAGAMI.

[Mr. Kagami's route lies far to the E. of that accomplished by Signori Cretier, Binel, and Chabod, some six weeks earlier.—*Editor.*]

A NOTE ON THE WATCH-TYPE OF ANEROID AND ITS USE.

THIS note is written in the hope that it may be of use to Alpine parties carrying an aneroid, usually of the watch-type, to indicate weather changes and the heights attained. Its use for the latter purpose does not seem at present to be entirely successful, and aneroid heights are always regarded with grave suspicion. Whymper, describing his experience of two aneroids in the Andes, relates that 'the index of one instrument became immovable and the other was afflicted with a quivering action which set observation at defiance.' Since that time advances have been made in the design of these instruments, and within the last fifteen years the errors likely to occur have been closely studied. The causes of the most important errors, avoidable and unavoidable, are described below, and some idea is given of their magnitude.

The aneroid barometer has two distinct functions to perform. It must first determine the atmospheric pressure and then give a height reading corresponding to the pressure.

Its accuracy in determining the first of these quantities is much lower than that of a mercury barometer. It should therefore be adjusted against a mercury barometer on every possible occasion. An aneroid is called 'compensated' if it is designed to give a reading at sea-level independent of the temperature. It does not follow that the reading at low pressures will be unaffected by the temperature. A simple test is to see if the reading is altered by the warmth of the hand.

More important is the error known as 'creep.' If an aneroid is subjected to a low pressure its pressure reading will not remain steady at the same pressure, but will show a further gradual fall, which may continue for days before ceasing. As an example of this variation with time, the reading of an aneroid subjected to a change of pressure from 30 to 22 ins. of mercury fell $\frac{1}{20}$-in. in the first 2 hrs. and a further $\frac{1}{20}$-in. in the next 18 hrs. If the pressure be restored to its initial value, the aneroid will at first read low. 'Creep' will then occur in the opposite direction, and the reading will slowly rise to its original value.

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This error can be minimized by keeping the instrument, when not in use, in an air-tight tin, in which the pressure has been raised to 30 ins. of mercury by means of a bicycle pump. In the Watkin aneroid the same effect is produced by a device which relieves the diaphragm of the forces on it.

In a good instrument the mechanical errors due to friction and backlash are very small; though when reading the instrument it should always be held in the same position and lightly tapped.

The Paulin aneroid[1] avoids some of the errors mentioned above, but at present it is not made in a pocket size.

The problem of interpreting the pressure readings must now be considered.

The height scales of English-made aneroids are usually graduated from a formula which assumes that the sea-level pressure is 29·9 ins. of mercury and that the atmospheric temperature is constant at 50° F.

An error is caused by adjusting the height scale to changing sea-level pressures. This error increases steadily with height, and amounts to over 1000 ft. at 15,000 ft. if the sea-level pressure alters 1½ ins. from its standard value. This error can be avoided at the cost of a small complication by fixing the zero of the height scale opposite the pressure reading 29·9 ins. The difference of level of two points is then the difference of height indicated on the height scale. For example, suppose at a hut of known height 10,240 ft. the aneroid adjusted as above gives a reading 10,790 ft. If in the course of an expedition the aneroid indicates 15,770 ft., the true height will be [15,770 ft. − (10,790 ft. − 10,240 ft.)] = 15,220 ft.

A closer approximation to the height attained can be found if the aneroid height be read on return to the hut or other point whose height is known. By taking a mean of the two readings the variation of the sea-level barometer during the day can be allowed for.

Equally serious is the error due to the fact that the atmospheric temperature has not a constant value of 50° F. If temperature observations are made during the expedition and calculations afterwards carried out, the correction for this error can be determined, but the process is far too lengthy and troublesome to be practicable for the ordinary party.

This difficulty is, of course, just as troublesome in aviation. As a result of a great number of observations of air temperatures at different heights, the International Commission for Air Navigation has recently adopted an 'International Standard Atmosphere.' This is to be taken as a basis when computing formulae for the graduation of aircraft altimeters. This atmosphere is assumed to have the following properties. At sea-level the temperature is

[1] *A.J.* **40**, 360–2.

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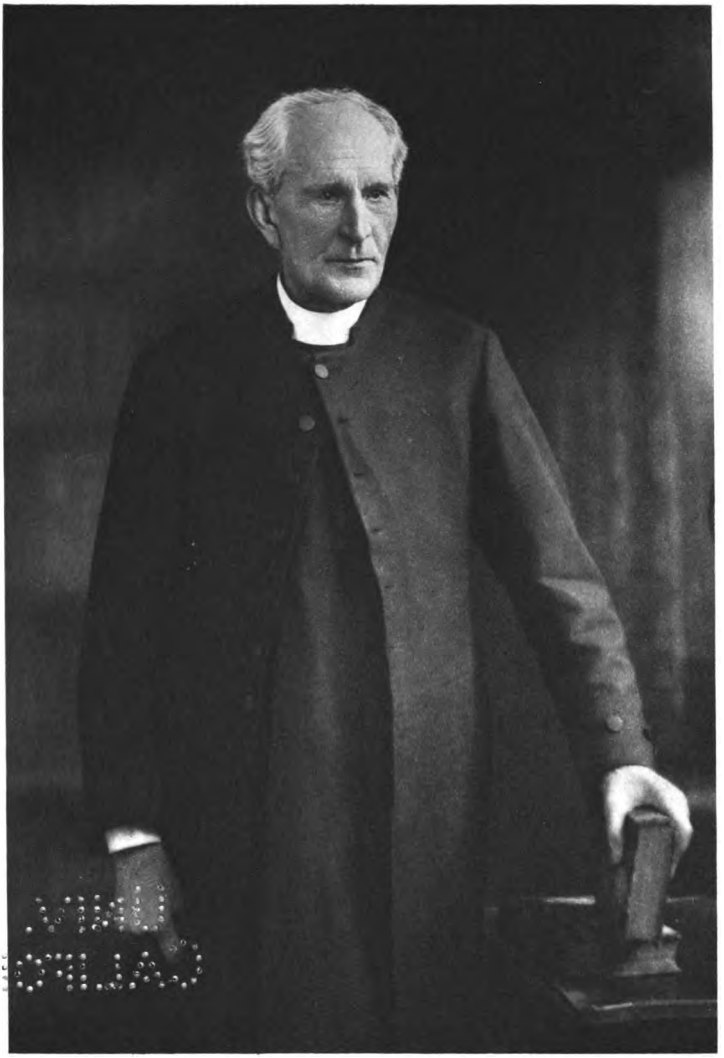

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59° F. and the barometer height, reduced to 32° F., is 29·9 ins. The air temperature decreases uniformly with height at the rate of 3·57° F. per 1000 ft.

These relations do not apply precisely to the British Isles, where the mean annual ground temperature is about 48° F., but they represent with fair accuracy average conditions over the whole world. They are much superior to the isothermal assumption of 50° F. At 15,000 ft. the difference between the formulae amounts to over 500 ft. It is greatly to be hoped that instrument makers will at once adopt this standard atmosphere.

A. M. Binnie.

Fuller information will be found in the following :—

E. Whymper. 'How to use the Aneroid Barometer.' John Murray, London, 1891.

Sir Richard Glazebrook. 'Dictionary of Applied Physics,' vol. iii; articles entitled 'Atmosphere, Physics of the'; 'Air, Investigation of the Upper'; 'Barometers and Manometers.' Macmillan & Co., London, 1923.

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International Commission for Air Navigation, Official Bulletin No. 7, 1924.

IN MEMORIAM.

GEORGE FORREST BROWNE.

(1833–1930.)

By the death on June 1 of the Right Rev. George Forrest Browne, D.D., etc., sometime Bishop of Stepney, and later of Bristol, at the age of 96, the Alpine Club has lost its oldest and one of its most gifted members. His was a remarkable personality, and his long life was one full of valued and varied service to University, Church, and State. He was a born organizer, of great distinction as an antiquary, and a historian, in the latter case doing invaluable work in impressing upon the English people the true *origines* of the National Church.

He was born on December 4, 1833, under the shadow of the strong and splendid walls of York Minster, with which famous cathedral he was closely connected on the side of both his parents. In addition, he was educated at the ancient school of St. Peter's, York, with which are also associated the names of a number of our most distinguished members—Charles Hudson, Tempest Anderson, Clifford

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Allbutt, and, as a Classical Master for over 52 years, our former Editor of the ALPINE JOURNAL, George Yeld, happily still with us.

At Cambridge he had a remarkable career, not merely academically, but even more as an administrator and organizer. He took honours in mathematics and in theology and was a Fellow, or Honorary Fellow, of his college (now known as St. Catharine's but in his early days as Catharine Hall) for over sixty-five years!

He was the virtual founder and organizer of the well-known 'Cambridge Local Examinations,' and of the *University Reporter*, as well as at one time Secretary of the University Commission.

His activities in the life of the town and university for a number of years were as varied as they were strenuous. He was not only a Magistrate and a Town Councillor, but also the life and soul of the University Conservative Party, and Disney Professor of Archaeology.

An amusing illustration of his all-embracing energy and interests is shown in the story of the intelligent and inquiring foreign visitor to Cambridge who, after acknowledging to his guide his services in showing him the various sights of the place, at last posed him with the question, 'But where is the University?' At that moment Mr. Browne was observed passing by with the usual bundle of official papers under his arm. 'There, Sir, see, that gentleman *is* the University!'

This is perhaps hardly the time to speak of his other manifold activities in connection with the university, or in his episcopal labours, which were continued until past his eightieth year. Nothing came amiss and all was carried out with characteristic thoroughness and determination. Well-deserved recognition came to him in the degrees of D.D. of Cambridge and Oxford, D.C.L. of Durham, and Fellowship of the British Academy.

But besides the more serious activities of his long and useful life we find the same energy and keenness displayed in the varied recreations to which his leisure time was given. He was an ardent devotee of fly-fishing, and a gardener of good taste and intelligence.

But perhaps the one pursuit that made the surest appeal and gave him the greatest pleasure was that which brought him into connection with the Alpine Club and with all for which it stood in his eyes. This was well illustrated by two remarks made by him to the present writer at a considerable interval of time. On the first occasion, in the year 1905 after his election as President of the Club, he told how on his return home he had reported to a member of his family the conferment upon him of one of the highest honours an Englishman could aspire to. 'What! the Archbishopric of Canterbury?' 'No, the Presidency of the Alpine Club!'

Over twenty years later he spoke with real regret of being prevented through medical advice from attending the meetings. 'For,' he added, 'I love the Alpine Club and every thought of it!'

He first became a member in 1864 until 1876, and then rejoined

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FRIDTJOF NANSEN,
1861-1930.

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in 1895. He was originally elected on a literary qualification, his actual climbing activities being mainly represented by ascents of Mont Blanc, Diablerets, etc. When elected President he was wont to declare the honour was due rather to his researches of a subterranean, than to achievements of a strictly Alpine, character. The results of the former were chiefly embodied in a book of much interest—'Ice-caves of France and Switzerland,' published in 1865. This was followed in 1895 by one in a somewhat lighter vein, 'Off the Mill,' and finally, in 1915, by 'The Recollections of a Bishop.'

His presidency coincided with the Jubilee of the Club, and many members will recollect with pleasure the distinction and humour with which he discharged the duties of his office on the occasion of the famous dinner in the Hall of Lincoln's Inn.

Bishop Browne married, in 1863, Mary, daughter of Sir J. Stewart Richardson, Bart., who died in 1903, leaving two sons and three daughters.

W. W.

FRIDTJOF NANSEN, G.C.V.O.
(1861–1930.)

When I was a boy Nansen was our great hero. His crossing of Greenland and his Polar expedition set our imaginations at work. His example made us take up ski-ing and go in for the free life in the woods and amongst the mountains.

But how often is it not that the idols of youth become rather tarnished in later years? Not so with Nansen. As we grew older and learned to distinguish between the values in life he was still in front, still showing the road.

We realized that Nansen was more than a great sportsman, an adventurous explorer. After deeds which excited the admiration of the world he would be content to spend years in quiet, scientific research, the value of which only few could appreciate. The deeds were more or less incidents in a life of hard, conscientious and never-ceasing work.

And to Nansen nature was more than a mere playground. In prose which no Norwegian author has exceeded in power and pregnancy, he gave us something of his own love of nature, his own deep feeling of affinity to the mentality and people of our country.

Nansen was a true patriot. In 1905 when our national existence was at stake he immediately gave up his work and plans to put himself at the disposal of the Government. Though far from what we usually understand as a diplomat—or perhaps on account of that—he rendered Norway invaluable services as our first representative to the Court of St. James's.

And again during the war, when our imports were cut off and we had to beg the United States for food, he went over as head of the

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Norwegian Mission. It was not a pleasant job, but personal inconvenience, even indignity, mattered little to him when duty called.

It was the same intense sense of duty coupled with love of mankind which made Nansen take up the great and heavy tasks under the League of Nations, a work which at last broke down even his iron constitution.

Nansen never said, never wrote, never did a thing for the sake of saying, writing, or doing it. The purpose was everything to him, and the purpose was always of the noblest.

All the honours which were bestowed upon Nansen never turned his head. He was the most simple and natural, the kindest and most human of men. And those of us who had the luck to meet him could not help coming under the influence of his great personal charm. We shall never forget his deep, beautiful voice, or his smile so full of humour and understanding, boyish and half-shy.

There may have been greater explorers, greater scientists, greater diplomats, but never an honester or truer man. That is why he was equally respected and trusted at Buckingham Palace or in the Kremlin; equally beloved by his own countrymen and the millions of poor refugees of all nations.

That is also why we who started admiring Nansen in our youth for what he had done, continued to admire him for what he did—and to love him for what he was.

C. W. R.

HENRY SEYMOUR HOARE.

(1848–1930.)

Mr. Seymour Hoare, who died recently in his 83rd year, was one of the foremost members of what may be called the second generation of mountaineers. Educated at Harrow and New College, Oxford, he began climbing at an early age and was elected to the Alpine Club in 1873; he served on the Committee from 1880 to 1883.

His best-known expeditions are chronicled in the 'Alpine Register,' vol. ii. We give a few of the most prominent: 1873, Matterhorn from and to Zermatt in *one* day. 1874, Ober Gabelhorn, first ascent by the W.S.W. arête or *Arbengrat*; Dent Blanche by a much disputed route but what seems to have been an unrecorded ascent by the S., and previously untraversed, arête ('A.J.' **15,** 67–68). 1875, first crossing of the difficult Col des Nantillons. 1876, Gross Engelhorn, first ascent. 1877, Weisshorn, first ascent by the S.W. arête, *Schalligrat,* reached from the E. 1878, Mt. Maudit, first ascent. 1879, Ober Gabelhorn by another new route, also in the vicinity of the *Arbenjoch*; an attempt on the Eiger by the N.E. or *Mittellegi* arête ('A.J.' **41,** 282); first traverse from Blümlisalphorn to Weisse

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Frau. 1880, second ascent of Aiguille du Plan. Later we find many climbs in the Pennines and Mont Blanc Group, including the ascents of what were then considered the most difficult peaks, including the Aiguille de Blaitière and the Drus. Most of his expeditions were made under the lead of that fine guide, the late Johann von Bergen, for whom Hoare had a warm affection, and whose career he described in 'Pioneers of the Alps.'

Seymour Hoare's friend and frequent companion, Mr. J. Walker Hartley, himself considered by guides and competent judges as the most brilliant amateur of his time, writes:

'Harry Hoare and I were at Harrow together in the late 'sixties, where he played in the cricket eleven and I was a junior. From that time I did not see him until we met in the Alps in the 'seventies. We did several climbs together with Ned Davidson, but it is so long ago that I have only a vague recollection of them.

'One at least I do remember, the first ascent of the Weisshorn from the Schalliberg Glacier by the S.W. ridge. Camping below the glacier, we reached the main ridge by an embryo spur between incipient couloirs, being well pelted with stones until we got on to the main ridge. I do not think we had any particular difficulty on the climb though it was somewhat long and we did not get down to Randa till night. I am not sure whether Hoare was with us when we traversed the Lyskamm[1] from the Felikjoch, having to go for some distance *à cheval* along the sharp ice ridge.

'Hoare was a safe, fast and cheerful climber and a charming companion. I am exceedingly sorry to hear of his death. He was very fond of hunting and a good rider. I believe he hunted with the Cattistock for many years after giving up climbing.'

THOMAS P. H. JOSE.

(? 1857–1930.)

ANOTHER of the Old Guard well known as a capable mountaineer has passed away. Jose was educated at Clifton and King's College, Cambridge. Some of his principal expeditions are chronicled in Mumm's 'Alpine Register,' vol. ii: 1878, Matterhorn. 1881, Dent d'Hérens, first ascent by the N.W. arête. 1884, Breithorn, N. face. 1885, Wellenkuppe, first ascent from the W.[2] (Mountet). 1886, Mönch from the Kleine Scheidegg by N.W. arête—a very difficult ascent not accomplished since 1879 and not repeated till 1894.

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[1] The 'Alpine Register' records a traverse of the Lyskamm among Mr. Hoare's expeditions.—*Editor.*

[2] August 1, 1885, with Peter and Caesar Knubel. *A.J.* **13**, 124; **42**, 126; *Alpes Valaisannes*, ii, 1930, p. 144, sketch p. 126; *Die Alpen*, 1930, p. 400.

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1887, Aiguille des Grands Charmoz ('A.J.' **13**, 408–409; **39**, 251), the first N.–S. traverse. 1889, La Meije. 1892, Pointe du Vallon des Étages, new route from the N.E.; Grande Aiguille, new route from the W.; Pic Gény, first ascent by N. arête; Les Écrins; Distelhorn, first ascent.

Mr. Jose appears to have survived the greater number of his friends and companions of the Alpine Club to which he was elected in 1873, but Sir George Morse remembers him as a keen and excellent climber.

ELLIS CARR.

(1852–1930.)

It is now many years since Ellis Carr took any active part in mountaineering or in the affairs of the Alpine Club: but during his last illness there was nothing he enjoyed so much as a chat over old days among the mountains, while his generous donation to the appeal for funds necessitated by the threat to our premises evinced his constant interest in the Club to which he was elected in 1888 and in whose affairs he took a prominent part while serving on the Committee (1896–99).

Carr was a many-sided man and whatever he did he did well. Though thwarted in his wish to become an engineer, his natural talent in this direction found many opportunities in inventions and adaptations of machinery in connection with his business, while he carried out the various duties which fell to his lot with exemplary thoroughness, and proved himself a stimulating influence among colleagues and employees alike.

The old firm of Carr & Sons of Carlisle was a pioneer in the manufacture of biscuits on a large scale, and remains still a family concern. But Carr's father migrated to London while Ellis was yet at school, and the boy's career was automatically and very fortunately mapped out. For many years before his retirement he was managing director of the great firm of Peek, Frean & Co., whose fortunes are wisely linked in harmonious co-operation with those of Huntley & Palmer. He lived, for the most part, with his aging parents during their lifetime, and subsequently with two sisters to whom he was devoted. He never married.

Carr possessed inborn talent in two of the arts, in both of which he attained to a high degree of amateur proficiency, and both of which were turned to account in connection with the mountains. In music, while his trained skill was devoted to the flute which for many years he played in a well-known amateur orchestra (The Wandering Minstrels), it was his voice and his natural ear which added so much to the gaiety of winter gatherings in Lakeland and

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ELLIS CARR,
1852-1930.

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in Wales in the 'eighties and 'nineties. His water-colour sketches of mountains and Swiss scenery, though occasionally shown at the Club gallery, are not so widely known as they deserve to be, while his pen and pencil drawings account for several illustrations in this JOURNAL, and for two or three of the winter dinner menu cards. He illustrated Haskett-Smith's 'Climbing in the British Isles,' and the small handbook on 'Mountaineering' published in 1893 by the writer of these notes. Few artists could have succeeded so well in either case.

As a mountaineer Ellis Carr earned, and will always be accorded, a distinguished and rare position. Accustomed from early youth to the fells and rocks of Cumberland at all seasons, and trained by good guides in his Alpine initiate, he was well qualified to become a guideless climber when the time came: and it was as a guideless climber that he made his mark. In estimating his position it may not be inopportune to sketch in brief outline the early stages of this movement which has of late years assumed such important developments among the competent, and such vast proportions, with an endless chain of casualties, among those inadequately trained. As in the case of mountaineering in general, our countrymen have been pioneers in this branch, especially in its more reputable phases, and what follows is confined strictly to the British contribution. It was in 1855 that Chas. Hudson and E. S. Kennedy ascended Mont Blanc by a new route and without guides,[3] a brilliant but solitary achievement. In the 'sixties Mr. Girdlestone made a series of easy expeditions and encountered difficulties where no one else had found any. Very ingenuously he went out of his way to expose his ineptness by writing a book,[4] which brought merited criticism, and for a time discredited the movement. In the mid-'seventies Messrs. Cust, Colgrove, and Cawood did some fine and unobtrusive work which included the first guideless ascent of the Matterhorn, while towards the end of the same decade the first really serious era of guideless climbing was initiated by the splendid campaigns of C. and L. Pilkington and F. Gardiner. The 'eighties witnessed a good many sporadic ascents—many of them unrecorded—but it was round about 1890 that what may be called the second serious era began in earnest, and in this several parties and groups were engaged. It was to this period that Carr belonged, and it may be safely said that no individual was associated with so many groups and so many particular climbers as he was. He climbed with Chas. Pilkington and Horace Walker, with Mummery, Slingsby, Collie, Conway, Woolley, Solly, Hopkinson, Topham, Brant, Rolleston, Haskett-Smith, Beeching, Wicks, Morse, and the writer; and the list is far from complete. Between the years 1890 and 1910 Carr must have made a good hundred guideless

[3] *Where there's a Will there's a Way*, 1856.
[4] *The High Alps without Guides*, 1870.

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expeditions, many of them of the first rank. Possibly the first ascent of the Pic Sans Nom, on the Aiguille Verte ridge, with Morse and Wicks was the most brilliant achievement, while the attempt on the N.W. face of the Aiguille du Plan with Mummery and Slingsby (commemorated in Carr's classic paper, 'Two days on an Ice-slope,' 'A.J.' **16,** 422–446) was the most dramatic. It is needless to particularize further: he climbed in almost every Alpine district, and did things great and small in all of them. A by no means comprehensive list of his expeditions occupies four pages of Mumm's 'Alpine Club Register' (vol. iii).

Beyond health, strength, endurance, grit and resource, three qualities are required of a guide, be he amateur or professional: ability in route finding and following, rock-climbing, and ice and snow work. As to the first Carr did his share of leading, but he was generally with parties which included members even more experienced than himself, and on whom the general plan of campaign was apt to fall automatically. As to the second he was first-rate—firm as the rock he stood on; and it was he who first discovered and carried out the hand-traverse on the Pillar Rock north climb. Yet in this branch he was hardly supreme, as was Mummery. But when coming to the third, probably all who have climbed with Carr would join in placing him first among amateurs as an 'ice-man.' He cut splendid steps and he cut them quickly. Powerfully built, and possessed of natural balance and ease of movement, he *looked* more like a guide than most of us do; and on ice he worked more like one, and like one of the best. On the whole he was one of the most expert of guideless climbers, and his inclusion in any party always added an extra element of strength.

If out of the maze of memories which surrounds the mental picture of anyone with whom one has associated, off and on, for half a century, we select, say, half a dozen which emerge spontaneously, a general impression may perhaps be conveyed. Swirling mists obscuring the route on the snows of the Aiguille des Glaciers: the queer uncertainties of two new routes on the then unmapped Corno Bianco:[5] a very long day traversing the Dent d'Hérens: sunny meadows and shady woods at Gressoney: a cold night in a tent on the shores of Loch Coruisk: and warm singsong evenings in a tobacco-fogged room at Wastdale. Others, at least as competent as the writer to undertake this little memoir, would surely produce very similar equivalents. Ellis Carr was a grand climber, a trusty friend and a boon companion. 'And so say all of us' would be the echo.

C. W.

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[5] Mapped by Carr, *A.J.* **17,** 492.

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R. P. HOPE (Aet. *22*),
1873-1930.

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R. P. HOPE.
(1873–1930.)

ROBERT PHILIP HOPE was born on June 29, 1873, and died suddenly of heart failure on June 21, 1930. He belonged to an old Scotch family, the Hopes of Pinkie. The baronetcy was created in 1628, and Hope's elder brother Colonel Sir John Hope, who was for some years Unionist M.P. for Midlothian and who died in 1924, was the sixteenth baronet. Hope was educated at Eton and Oxford, where he was a Postmaster of Merton and took a first in Mathematical Moderations, and was in the second class in Mathematics for his degree. On leaving Oxford he spent a short time in Lord Kelvin's electrical works at Glasgow. He was a born mechanic, and would have made a very good electrical engineer. He could take down and re-assemble the engine of his motor car and was a first-rate driver. He drove me over the St. Gothard Pass in 1910 and negotiated all the zigzags, only once having to reverse.

In the last year or so, he put together a super-het wireless set, with which he was able to get an enormous number of stations, and he discovered how to cut out a certain interfering station which had puzzled some of the experts. He was working at his wireless on the flats of his house before breakfast the day that he died.

But the great interest in his life was mountaineering. His first visit to Switzerland was when he was six years old, and he remembered walking over the Gemmi in 1882, when he was nine years old, with a porter holding his hand all the way down for safety. His next visit was in 1891, when he climbed the Mittaghorn with a guide, and crossed the Lötschenlücke with Professor Williamson and two guides. In 1893 he climbed the Pigne d'Arolla and the Tsa, and his next visit to the Alps was in 1895, when I met him by chance at Sulden, in Tyrol, where he was staying with his father and mother. His brother, with whom he had made two ascents with guides, left to join his regiment the morning after I arrived. It was Sunday, and Hope and I found ourselves crowded out of the small room where the English service was held, and went for a walk. Next day we started guideless climbing with the Tschengelser Hochwand, an easy peak of over 11,000 ft. Then we did the Eisseespitze, and my friend, W. Barnard, who had joined me at Sulden, made a third man for such easy mountains as the Ortler, Cevedale, Marmolata, Gross Glockner and Cristallo. The breaking-point as regards guides had been reached for Hope when they hurried him and his brother down from the top of the Königsspitze, saying that bad weather was coming on and had them back at the hotel by 9 A.M. on a perfect morning.

In 1896 we climbed in Skye, and in 1897 had a pleasant season at Arolla, which we finished by crossing the Col du Grand Cornier and the Triftjoch to Zermatt, still dispensing with guides. In 1898 Hope

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was not allowed to climb, but he came up to the huts and lay about in the offing. Thenceforth we climbed together every year till the war, except in 1904 (when I was in South Africa), and visited pretty well every district in the Alps. We climbed most of the well-known mountains, traversing them in a large proportion of cases, and also did a good many out-of-the-way peaks that are seldom climbed by Englishmen, such as Mont Aiguille, Brec de Chambeyron, Le Sirac, etc. Sometimes we had a third man, but most of our climbs, including all our best expeditions, we did alone.

We paid our first visit to Dauphiné in 1902, and made the fourth guideless traverse of La Meije, and the first by a British party. It was done two days later by Herren Fischer (who was killed in the Caucasus), Fankhauser, and Hermann. They found the piton above the Brèche Zsigmondy, which we had been the last to use and had left apparently secure, loose.

The same year we made the first British ascent of the highest peak of the Becchi della Tribulazione, an interesting rock climb, which had been done four times before, each time by an Italian party; and we also traversed Mont Blanc from the Dôme hut to Chamonix.

The year 1903 was a bad season from a weather point of view, but we managed to get in about twenty expeditions, including the Rimpfischhorn, Rothhorn (traverse), and Ober Gabelhorn (traverse) in four consecutive days; the Dent Blanche from Staffel Alp to Arolla, a long day, and the Matterhorn traverse from the Italian hut to Zermatt, the only fixed rope which we used on the ascent being the rope ladder. Some of our times do not bear investigation, but I think 12 hours, including halts, or 9½ hours actual going, was fairly good time for this expedition. Three quarters of an hour from the Schwarzsee to Zermatt was certainly fast.

We paid two or three visits to the Dolomites, where we climbed, among others, Zwölferkofel, Elferkofel, Croda da Lago, Fünffingerspitze, Cimone della Pala, Pala di San Martino, Stabeler Thurm, Sorapis, etc.

From 1900 to 1913 Hope usually stayed on longer than I did, and regardless of the Scripture precept which says that 'two are better than one,'[6] he made a number of solitary climbs, including the Dom, Torrone Orientale, Blümlisalphorn, and Grand Darreï. He left a detailed account of these expeditions, which the Editor hopes to publish in a future number of the JOURNAL. They showed his courage, and his confidence in himself, which was justified by what he accomplished.

His total list of guideless climbs comes to about three hundred.

He had all the attributes of a good guide except physical strength. He was good at reading a map, good at prospecting a route, for which

[6] 'Two are better than one—for if they fall, the one will lift up his fellow: but woe to him that is alone when he falleth; for he hath not another to lift him up.'—*Eccles.* iv. 9–10.

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he used a small monocular glass, good at finding the way when on the mountain, and good at steering by compass in a fog. He was safe on snow and ice, and a good step-cutter, for which he always carried a guide's axe. He was also quite a good rock climber, though he disliked very steep or exposed places, but he led all the way up our new route by the N.W. arête of the Nesthorn, which was a rock climb. It was my first expedition after an operation, and took 24½ hours, during which we only halted for food.

Hope had a keen appreciation of mountain scenery, and always tried to choose a halting-place which afforded a view, and if the day was good and the view fine, he liked to sit gazing at it for an indefinite time, quite regardless of whether it might mean a night out or not. He was at his best in adversity, and when it became clear that we were going to be benighted, he immediately proceeded to make the best of things, choosing the best place to bivouac, finding the nearest water if we were below the snow-line, and starting to cook a hot meal, for which he always carried an aluminium stove.

Larden, in his 'Recollections of an Old Mountaineer,' describes how Hope guided him up the Tour Noir, which Hope had been up before, and nursed him down the steep piece, and then descended quickly on the doubled rope, 'employing a dodge (what dodges are there that he does *not* know?) shown him by Simon of the Montenvers. The rope was twisted round his leg, and I held the other end. By tightening or relaxing at his word of command, I could regulate the friction to suit him.' He says that 'Hope, the resourceful, has reduced mountain outfit to an exact science—he goes very lightly burdened, and yet can prepare buttered eggs and cocoa on the remotest mountain peak; and he even has an aluminium plate that clips on to his knee, and enables him to eat as at a table in any place where he can sit down. I had thought that *I* was rather dodgy, but a few days with Hope showed me that I had everything to learn.'

In 1912 we took up ski-ing, rather late in life for Hope, and much too late in life for me, but we visited Lenzerheide, Montana and Gstaad in winter, and for several years spent the month of February at Saanen-möser, above Gstaad, in the Oberland.

During the war Hope was only rated as C3, but he worked at Lady Lytton's hospital as odd man, driving the men in his car, taking messages, and doing all sorts of jobs. After the war we climbed again, but in 1922 we gave up mountaineering, but continued to visit the Alps, walking up hill, and doing glacier expeditions. Our last visit together was in 1929.

Hope was extraordinarily ingenious in inventing and perfecting all sorts of devices in the matter of equipment. He made a folding aluminium camera, weighing 1lb., with which he took a number of excellent quarter-plate photographs. He devised a loofah cushion, in two halves, connected by string. When folded it hangs between the rucksack and one's back, and when opened out, with a bit of baptiste spread underneath, it enables one to sit on damp ground

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or snow with impunity, and also eases the rigour of the Swiss third-class railway carriage. His latest rucksack is made of airship fabric, very strong, quite waterproof, and weighing 7 ounces complete. For our post-climbing days he got two detachable umbrellas made on strong ash sticks with spikes. Once on the Morteratsch Glacier when it began to rain, it was hard to know whether we needed the spikes or umbrellas most.

We seldom climbed from centres, and during one summer season we slept at twenty-nine different places in the Alps. We never roped as long as we felt we could move safely without it. We climbed the Bietschhorn, Monte Rosa, Weisshorn, Grand Combin, Mt. Collon from Chanrion, and from the Tête Rousse to the Vallot hut, all without roping on the ascent when the snow was hard. We climbed the Dent Blanche from Staffel Alp without roping up or down, till we reached the Ferpècle Glacier in the afternoon, and traversed the Rothhorn from the Trift without roping till we got off the arête on the Zinal side.

List of new routes: Nesthorn, by N.W. arête, the highest of the Fünffingerstöcke, Gwächtenhorn, Münster Pass from Münster and Oberaar Hut (christened by Coolidge as we omitted to do so), Galenstock, Aiguilles Rouges d'Arolla by E. face, and perhaps one or two more. Hope served on the A.C. Committee, 1924–6.

He was a good all-round mountaineer, a charming companion, full of resource and with a pretty humour. He leaves behind him a great memory.

W. T. K.

ALEXANDER FREDERICK RICHMOND WOLLASTON.

(1875–1930.)

Alexander Frederick Richmond Wollaston, Fellow and Tutor at King's College, Cambridge, and Hon. Secretary of the Royal Geographical Society, was a distinguished naturalist, geographer, and botanist. He was also a keen mountaineer and had joined the Alpine Club in 1903, serving on the Committee from 1922 to 1924. The son of Mr. G. H. Wollaston of Flax Bourton, he was born in 1875, and was educated at Clifton College and at King's College, Cambridge, where he took his degree in 1896. He became a student at the London Hospital, qualifying as M.R.C.S., L.R.C.P., in 1903, and graduated at Cambridge, M.A. in 1906, B.Ch. in 1913.

Wollaston had, fortunately, sufficient means which enabled him to devote himself to travel and scientific pursuits. Mountains attracted him like a magnet, and in all his various journeys and expeditions, the study, exploration, and the conquering of some unknown peak, some unexplored range of mountains, were the objects of his journeys.

In 1905 he was a member of the British Museum expedition to

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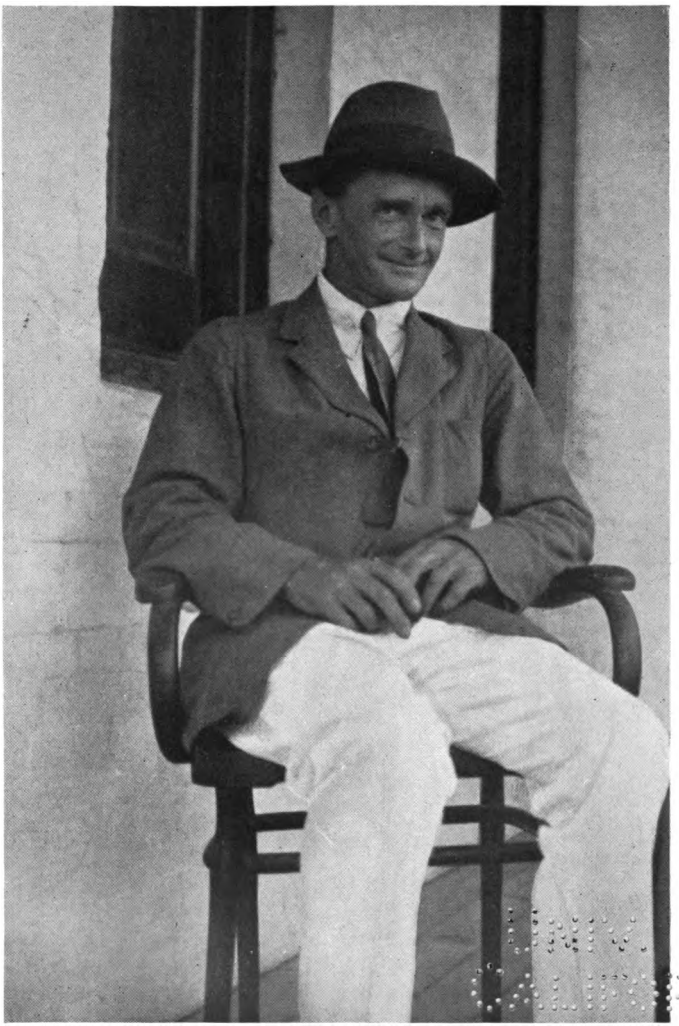

A. F. R. WOLLASTON,
1875-1930.

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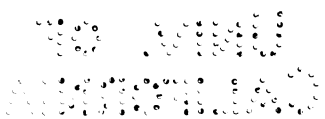

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Ruwenzori, where his main object was the collection of plants and animals. He was the first to ascend what was then supposed to be the highest peak of Ruwenzori, now known as Wollaston Peak. He wrote a charming book about this expedition—'From Ruwenzori to the Congo'—a book distinguished by a literary charm which is a feature of all his works. 'I have attempted,' he wrote, 'to convey something of the feel and smell of Africa as it appeared to me on hot and hilly roads, on winding waterways, and on cloud-girt mountain tops.'

His next expedition was to Dutch New Guinea in 1909. This expedition was organized by the British Ornithologists' Union, and Wollaston was medical officer to the expedition as well as entomologist and botanist, and he afterwards wrote the official account of the expedition in a book called 'Pygmies and Papuans.' By the mischance of choosing the wrong river, his expedition found itself in the heart of as difficult a country as is to be found, and had the mortification of seeing the Central Snow Range close at hand without the possibility of reaching it. 'It has happened to me,' he wrote, 'to walk through many hundreds of miles of forest in different parts of the world, but I have never seen any so dreary as that New Guinea jungle, with its mud, its leeches, its almost unbroken stillness, and its universal air of death. Happily the mind of man has a curious selective habit, and it chooses to retain only the more pleasant things. You forget the long walks in rain and mud, the hunger and the nasty food, and remember rather those glorious moments when you came out of the twilight jungle into an open river bed and saw the distant mountains.' However, on this expedition he decided on the route to the Snow Mountains for a subsequent journey, and thus a second attempt in 1912–13 was crowned with success, and Wollaston was the first man to reach the snows from the south. His only white companion on this expedition was Mr. C. Boden Kloss, Curator of the Museum of Kuala Lampur in the Federated Malay States. The Dutch Government gave them an escort of 130 men, and travelling partly by canoe and partly over land, they reached the Snow Mountains in four and a half months. At a height of 14,866 ft., less than 500 ft. below the summit ridge of Mt. Carstensz, they found progress barred, and had to give up the attempt to gain the top. He had, however, secured extensive ethnographical data and valuable natural history collections.

The natives of the mountains were found to be of a Papuan type, hitherto unvisited by Europeans, and the people had no written vocabulary until Wollaston made one.

In March 1914 he was awarded the Gill Memorial by the Royal Geographical Society, and was planning a third expedition to Dutch New Guinea when the war broke out.

During the war he served as a Surgeon R.N., on the Northern Patrol, in German East Africa, and latterly on the Murmansk coast;

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he was 'mentioned' in despatches and awarded the Distinguished Service Cross. .

In 1921 he came with me on the first Mount Everest expedition, and I saw more of him than I did of any other member of that expedition. He was not only medical officer, but he was also our botanist and naturalist, and in addition to this he was a brilliant photographer, and many of the finest photographs that were brought back from that expedition were due to his great skill. He was my companion more often than any other on the different trips that were made, for we had many tastes in common. He loved birds and flowers, and had an intense appreciation of all the marvellous scenery that was unrolled before us day by day. After telling him of a visit that I paid to the Kama Valley, he was so fired with the desire to see it that we made two expeditions together into that valley, which is surely the most beautiful one in the world, and I watched his intense enjoyment of every little thing in it. Nothing was too small to attract his attention, the beauty of the flowers, the mountains, the scenery, the great glaciers descending among the tall fir trees—all were intensely appreciated by him. He was an ideal companion, and only those who have travelled much know how difficult it is to find a real companion with whom one can share all one's difficulties and all one's troubles, month after month. He seemed to fit in anywhere and everywhere, and in addition to that he had a wide wisdom of the ways of man in the world.

He was the first European to visit the sacred Temple of Lapchi, the home of the great poet and saint, Mila Respa, who lived and died and was buried there; and from that expedition he brought back a most beautiful primula which has been named after him, *Primula Wollastoni*. His description of that primula was that 'every bell of it was as large as a lady's thimble, of a deep azure blue and lined inside with frosted silver.'

In the autumn of 1923, accompanied by his wife, he made an expedition to the Sierra Nevada of Santa Marta in the extreme north-east of Colombia, a mountain range very little known, and culminating in peaks over 17,500 ft. This country had only been previously traversed by one Englishman, and they discovered much that was new.

In 1925 he was awarded the Patron's Medal of the Royal Geographical Society for his explorations, and during the last few years of his life his work kept him at Cambridge, where he endeared himself to all. Many tributes have been paid to him by undergraduates. 'He was accessible to all,' one wrote, 'never too occupied but that he could find time to listen, while nothing was too small or trivial to meet with his attention and procure his assistance. He made it his business to know everyone, and it was this personal touch chiefly which endeared him to all of us. It was possible to go and tell him things and ask for his advice as

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if he were a father, and he would always be helpful and sympathetic. He was indeed a great and good friend, and he attained a position of such affection and respect in the minds of all, that I can truthfully say among all the Dons whom I have met in four years at Cambridge, he is alone in that I have never heard an unkind word spoken of him or anything that was not good.'

His sudden death has indeed been a tragedy to us all, and especially to his wife and young children; but to his friends he has left behind him the memory of a true friend, an ideal companion, and an ardent lover of the mountains.

C. K. H. B.

MALCOLM ROSS.

(1864–1930.)

AFTER several months of failing health Mr. Malcolm Ross died at his home in Wellington, N.Z., on April 14, aged 66 years. In his early days Ross was prominent in athletics and games, having represented his native province, Otago, at Rugby football and also the Otago University in athletics. For some years he was private secretary to Sir James Mills, managing director of the Union Steam Ship Company of New Zealand, and later on joined the literary staff of the *Otago Daily Times* on which he worked for many years before moving to Wellington as correspondent for several leading New Zealand and overseas newspapers, representing them in the Parliamentary press gallery until shortly before his death. When the Dominions Commission arrived in New Zealand, in the course of an Empire tour in 1913, to investigate trade matters, Ross was appointed secretary, and did good organizing work in that capacity. In 1914, on the outbreak of the Great War, New Zealand sent an Expeditionary Force to capture Samoa, to which Ross was attached as War Correspondent; he followed up this line of work when appointed official correspondent with the N.Z.E.F. to Gallipoli and France, an appointment which was thoroughly justified by results.

Ross has been identified with Alpine climbing in New Zealand for the last 40 years. He was one of the pioneers in the Southern Lakes hinterland, and was associated with the discovery of a pass between Manapouri and the Sounds shortly after the loss of Professor Mainwaring Brown. His first big ascent was in February 1892, when, with his brother Kenneth, he climbed Mount Earnshaw (a second ascent), following this up a few days later by the first ascent, with his brother and the guide Birley, of the Triple Cone of the Remarkables.

At the end of 1890, with Mrs. Malcolm Ross, he made his first visit to the Tasman district, and from then till 1906 various expeditions were made to this district. Those who go to the

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Hermitage nowadays can hardly realize what was involved in a visit there in 1890. Then we had no tracks or huts, access to the little old Hermitage was by an antiquated old coach which took two long days from Fairlie over a terribly bad road. An expedition up the Tasman Glacier meant heavy 'swagging,' through dense scrub and over formidable moraines, to a camp composed of the lightest of tents, and no conveniences such as self-cookers and modern 'gadgets.' Such, until 1891, were the conditions when Ross and his wife first essayed work on the Tasman. Results came slowly, and the original pioneers, of which Ross was one, having 'blazed the trail,' often saw others come in and take the prize, but Ross by his plucky perseverance managed to secure one or two notable successes.

In 1894 he was with those who made a bold attempt to seize the first ascent of Mount Cook, before Mr. E. A. FitzGerald and his guide, Mattias Zurbriggen, arrived from England; he was not, however, with the successful party, Messrs. Fyfe, George Graham, and Clark, who 'bagged' the peak about Christmas of that year. Better success, however, attended his efforts later, when he, in 1895, with Mr. Brown, made the second ascent of Mount Sealey (8651 ft.); and two years later with that great climber, T. C. Fyfe, he ascended Mount Haidinger (10,000 ft.), the second ascent of De La Bèche (9815 ft.), first ascent of the Minarets (10,058 ft.), and, what was in the writer's opinion his most notable expedition, the crossing of the Lendenfeldt Saddle at the head of the Tasman Glacier and descent *via* the Wataroa River to the West Coast. To anyone who knows what pioneer work in that terribly rough country and West Coast rivers involves, this crossing will always be considered an outstanding record.

After a few years of less strenuous work, Ross again visited the Tasman district, and made his most notable climb in company with the late Mr. Samuel Turner and the guides Peter Graham and T. C. Fyfe, the first traverse of Mount Cook, ascending from the Tasman and descending to the Hooker Glacier.

In 1891 Ross was associated with Messrs. Mannering, Dixon, and Harper in founding the New Zealand Alpine Club in which he has held the offices of Vice-President, Editor of the *Journal*, and Member of the Committee. Last October, owing to ill-health, he retired from the Committee, and in recognition of his long services and to his having been one of the founders of the Club, he was elected Honorary Member. In 1909 he was elected member of the Alpine Club. He was also a Fellow of the Royal Geographical Society.

In 1914 Ross published his book—'A Climber in New Zealand'; and later on was associated with his brilliant son Noel (who died in 1918) in the writing of 'Light and Shade in War,' and with his wife in a fine volume of appreciation of their son Noel.

In the vigour of his youth a keen climber, in later years always ready to help along this great sport, and all through his life a true

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MALCOLM ROSS,
1864-1930.

CHETIN.

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lover of the eternal snow peaks, Malcolm Ross's departure over the Great Divide has left a gap impossible to fill by those of us who belonged to that little band of enthusiasts of forty years ago, and our thoughts go out in heartfelt sympathy to his widow who shared so devotedly in all his works.

A. P. H.

FREEMAN ALLEN.
(1870–1930.)

FREEMAN ALLEN, elected a member of the Alpine Club in 1911, was born September 27, 1870, in Stockbridge, Massachusetts. He died in Boston, Massachusetts, May 3, 1930. He was the son of the Rev. Henry Freeman Allen, and a grandson of the abolitionist and authoress, Harriet Beecher Stowe. He was graduated from Harvard College in 1893 and, after studying abroad, from the Harvard Medical School in 1899. Dr. Allen specialized in anæsthesia, in which he was a pioneer as well as an outstanding practitioner and teacher.

Wiry, enduring and skilful, a good horseman, track athlete, tennis player and an excellent swimmer, Dr. Allen was an accomplished sportsman; but mountaineering was a passion with him. His second climb was the Matterhorn, straight from Zermatt. In 1908, after a light, dry snowfall the day before, he was crossing the great N.W. face of the Dom when an avalanche carried him down 80 or more metres, stopping just short of the crevasse extending across the face. At the first onset he had driven his ice-axe in the snow, and when he emerged the upper half of it was still in his hand, the haft having been broken short off in the middle.

Great modesty, a keen sense of humour and a droll spontaneity made his personality a charming one, and an interest in others with admiration for what they did was a most lovable characteristic. Filed with the record of his own climbs was one also of each of his mountaineering friends.

He married in 1911 Miss Mary Ethel Gibson, and she, with one son, Henry Freeman Allen, survives him.

A. B.

MARIE IMFELD-SEILER.

THE Monte Rosa Hôtel, Zermatt, is to all climbers, and especially to the older generation, not merely a place for shelter, repose, or recreation, but a real home with which some of the happiest memories of their lives are associated, and where the warmest of welcomes always awaits them on their return.

The foundations for this happy relationship and true friendship

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between host and guest were well and truly laid by Alexander and Katherine Seiler, whose memories are still green with all those who had the privilege of knowing them, and who seventy-five years ago acquired the only then existing inn at Zermatt from the Lauber family—a small house with eight beds, on the site of the hotel which was to become so closely connected with the annals of mountaineering.

Happily their numerous descendants have continued to carry on the traditions handed over to them, and none more faithfully than their daughter, Mme. Imfeld, who superintended the Monte Rosa Hôtel for a number of years. Great was the sorrow and the sense of personal loss of her many friends when at the beginning of the summer they received the news that she had died from an embolism following an otherwise successful operation.

Mme. Imfeld was the eldest daughter of a family of sixteen. She was born at Brigue and carefully educated at various establishments in German and French Switzerland. When she was eighteen she spent a few months in London. In her twentieth year she married the well-known engineer and topographer, Xaver Imfeld, distinguished in his profession in many ways, and especially now remembered for his reliefs of the Matterhorn and Jungfrau, the Swiss topographical maps, in which he collaborated, and various panoramas. Mme. Imfeld was of great assistance to him in his work, and took a keen interest in it. They lived at Zürich, but Zermatt was the real home which she loved, and many of us remember her as the hostess of the Zermatterhof when it was still in possession of the Seiler family. Herr Imfeld died at an early age from an illness contracted on Mont Blanc where he had taken part in the establishment of the Janssen Observatory. They had seven children, whose education Mme. Imfeld superintended most carefully, and she had the satisfaction of seeing them well established in useful professions. There is no doubt that the recent loss of a daughter severely affected her own health.

On the death of her brother, Dr. Alexander Seiler, she took over the management of the Monte Rosa Hôtel and always looked forward to returning there during the summer months as a holiday, although her work and duties were not of the lightest, and at times she had her own private cares and sorrows of which only few were aware. She was highly gifted, a great reader, and endowed with a singular sense of humour which helped her over many difficulties. [It would be rather interesting if we could have our hosts' reminiscences of their guests.] She was very popular with her large staff, as her mother had been.

All visitors to Zermatt will miss her greatly and long remember her friendship and the personal interest she always took in their welfare and comfort, and especially the sympathy and devoted care which she so fully displayed in cases of accident and illness.

F. O. S.

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CHETIN.

CHETIN (' Satan '), the Sherpa porter recently killed by an avalanche on Kangchenjunga, is a great loss to Himalayan exploration. He was a good specimen of the men of the old Tibetan settlement of Solakhumba in Nepal.

He volunteered for the second and third Everest expeditions, and learnt his ice-craft from General Bruce and Captain Finch. I believe he twice carried a load to Camp V ; and he took an honourable share in the work of assisting Colonel Norton down from Camp IV when that officer had been attacked by snow-blindness.

In 1926 Dr. Somervell brought him and Mingma (' Alice ') to join Colonel (now Major-General) R. C. Wilson, my wife and myself in the Kumaun Himalaya. He did well on the Timphu Glacier ; in an attempt on the peak Qualganga ka pahár (where his playful passion for throwing stones at Mingma caused some discord) ; and in the crossing of the Ralam and Traill's passes. On the Ralam he held a rope of slipping Bhutia porters, restoring their confidence by means of some Rabelaisian chaff quite new to them, and by the time we came to Traill he had acquired such ascendancy over the men that they accepted his bland assurance that the descent was easy, which it was not. In Tibet, Wilson and he did a very good climb on Kailas, when Wilson was very much struck by his judgment and steadiness, and by his real keenness for an ascent. Having accompanied us in the 28-mile circuit of the mountain by three modest stages, he took a day off to do the whole thing by himself in 10 hours, by way of laying in a sorely needed stock of religious merit.

In 1927 he was with Dr. Longstaff, my wife and myself on the Nandákgini glaciers, bringing with him the redoubtable Lewa and four ferocious ' bhai-band.' His heart was in the climbing, and I well remember a little reconnaissance towards the Rinti Saddle. A snowstorm made farther progress doubtful, when suddenly, in a break in the racing mists, we saw, 7000 ft. above us, the summit of Trisul. On the instant came the cheery remark : ' Sahib, we must go up there.' Longstaff used to say what splendid fighting soldiers Chetin and Lewa would make : ' Can't you see them going into action with a knife in one hand and a stone in the other, gnashing their teeth ? '

Chetin again distinguished himself in the great attempt by the Bavarians on Kangchenjunga last year ; [7] and was evidently well to the fore in this year's effort.

Normally a quiet man, he would join in any fun that was going, and had a gift of clever improvisation in song which gave him

[7] Dr. Paul Bauer has written to us expressing his sorrow and that of the party.—*Editor.*

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considerable influence over his fellows. His strength and reliability, his character, intelligence, and mountain sense, would have made him a good guide.

Those who have had the privilege of climbing with Chetin will regret him sorely, and cherish his memory.

H. R.

Chetin had the faults and virtues of his race to a marked degree. In 1924 when his job on Mount Everest was done and his responsibilities ended he was as wild as a hawk; a too great fondness of liquid refreshments was his recurring trouble, sometimes in every village.

On the mountain, in both 1922 and 1924, he was one of our most reliable men when there was a really nasty job of work to be done. In 1922 he distinguished himself by accompanying Finch and Geoffrey Bruce to the 25,000-ft. camp, which he reached twice from the N. Col. In 1924 he was one of the undefeatable 13 whose spirit was undismayed by the hardships of the earlier phases of that unlucky year, whom we distinguished by the name of 'the Tigers' and relied on entirely for our final attempts.

He and Nima Tundrup were selected to accompany Hingston on his expedition to Camp IV to bring me down when I was snow blind—and magnificently they did their share. In type he was small and wiry, but well knit and very strong. I can well remember the iron grip in which he held me when escorting me down some of the more difficult passages.

He had a good face—a real determined hard-bitten little fellow, and it is no surprise to me to hear that the wildness of youth was no bar to his becoming—as he did—one of the real heroes of Himalayan high climbing. May he rest in peace. 'Finis coronat opus.'

E. F. N.
J. G. B.

NEW EXPEDITIONS.

Mont Blanc Group.

Mont Blanc du Tacul, 4249 m. = 13,941 ft., *B.I.K.* By the N.E. face. September 1, **1929.** Signori F. Ravelli, P. Filipi, and P. Ghiglione.

As far back as the month of July 1921 I had been looking at the N.E. face of Mont Blanc du Tacul, and my impression was that it seemed formidable. The very big couloir which rises direct to the *calotte* of Mont Blanc du Tacul appeared, unquestionably, like the only way up the face. There remained the doubt whether it would be possible to cross the bergschrund. For several years

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I left the problem aside, and always postponed it owing to the preposterous look of the said bergschrund.

Photo, F. Ravelli.]

N.E. Face of Mont Blanc du Tacul, showing 1929 Route.

Last year, on September 1, I left the Rifugio Torino at 03.30 with Signori P. Filipi and P. Ghiglione. At 05.15 we were at the bottom

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of the great couloir, where, on account of the continuous fall of snow and ice, it takes the shape of a cone. Having put on our crampons, in 15 mins. we reached the bergschrund, which, owing to the good conditions, we managed to cross without great difficulty. Having reached the upper lip ('A'), we went as quickly as possible towards our left. By doing this we left to our right the middle part of the couloir where stones often fall, and went up the slope which, becoming very steep, obliged us to cut steps and handholds. We had been hoping to get hold of the rocks which form a sort of arête—and, from below, looked full of good holds—and constitute the E. bank of the couloir, but landing on them proved impossible.

It became necessary to get on to the ice by the side of the rocks, which were also covered by *verglas*. By doing this we overcame the narrowest part of the couloir ('B'), representing the most dangerous spot. From time to time, but luckily not too frequently, falls of stones and ice began to take place towards the rocks on our right.

Our work was very hard, and consequently very slow. Above the narrow part we went up a zone where small rocks projected out of the ice without offering a safe hold: first, because mostly covered with *verglas*; secondly, because the holds sloped downwards. This is the most awkward part of the climb, and takes a long time and very hard work ('C'). We finally arrived under a red wall of rocks which looked very menacing above us. To our left it appeared overhanging and quite impossible; right in front of us the rocks were covered with big icicles and *verglas*. It would have been folly to try this way. To our right, towards the middle of the couloir, the ice was black, hard, and very steep, and marks of falling stones and séracs covered it. At this spot, at 13.00, a snowstorm began. It was no use persisting in going on. We decided to retreat, and, having fixed a long iron piton in the ice to secure the rope, we began our descent; finding, however, the steps full of fresh snow, we decided to try to traverse the couloir and reach the rocks on the other side, which in their upper part did not look very dangerous.

We gave our first man more than 200 ft. of rope, and did the same with the others so as to make the traverse as safe as possible. At 14.30 we had reached the rocks on the other side ('D'), and stopped a while for the first time to have a little food.

The weather looking better, we decided to continue the ascent by that rib of rocks dividing the big couloir from a secondary one. After some quite difficult bits, we reached the small ridge from which we could look down into the secondary couloir. Higher up, this ridge which we were following ended in some sort of a big, red, impossible-looking gendarme ('E'). We tried to find a way by entering a broken crack on our right about 100 ft. high. We stopped on a small platform. Below us there was a second couloir; a steep ice-slope ('F') took us to a square rock situated at the foot of a large and smooth vertical slab. Above this it was not possible

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to climb the big slab 'G.' We saw, however, that there was an horizontal crack cutting across our wall as far as the left side of it, and there a narrow and short *cheminée*, full of ice, descended from the upper arête and finished into space at our level. Filippi overcame the difficulty, and, having climbed on my shoulders and been pushed by my hands under his feet, succeeded in putting his feet on to the upper lip of the horizontal crack. From this, with the help of the axe planted in a hole, he reached the top of the glazed chimney and, cutting steps across into the couloir, disappeared up it. From above, Filipi could help us and haul up the rucksacks.

After this things improved, and following the edge of the arête, we reached the foot of another tower which prevented us from seeing what lay above. We climbed it, and from the top ('H') descended on a doubled rope to a little gap formed like a knife-edge of ice. We straddled across and over it. At this point the very difficult arête ended, and we began to free our minds of doubt as to our ultimate success.

We could see the big rocky face of our mountain supporting the white *calotte* of ice about 450 ft. above us. We could look down the secondary couloir, and towards the E. perceive the point reached in the morning. After the rocks we kept towards the left, and reached the end of the funnel widening out towards the summit. We cut through the corniche, and came out into the sun after having been so long in the shade. It was 19.00 hrs. and we could not waste time. In failing light we descended towards the Col du Midi, and attained it in the dark. At 23.00 hrs. we arrived at the Rifugio Torino, greeted by our friend Bareux, who had prepared for us a much needed supper.

F. R.

Les Droites, 4000 m. = 13,124 ft., *B.I.K.* By the N.E. face. July 31, 1930. MM. B. Arsandaux and Jacques Lagarde. Leaving the Argentière hut at 03.00, the party crossed that glacier and mounted the steep and very crevassed slope of the névé bay lying at the N.E. base of Les Droites, thus attaining the bergschrund. This was crossed at a height of about 2950 m., whence they climbed up first a snow-slope, then undercut rocks rather to the left, S.E., of point 2990 m. (*Vallot*). Scrambling up these rocks, bearing slightly to the right, W., a characteristic névé slope was attained. They climbed this névé to a point where it narrowed considerably; here they pulled out to the left, crossing in succession by a diagonal traverse, a rocky rib, a narrow couloir and a second rib. This rib was climbed for a short distance, whence a second couloir was traversed, thus leading the party to the third rock rib forming the left bank of the great couloir to the N.E. of Les Droites.

Crossing this third rib the party took to the great couloir, seeking the most sheltered line of advance. They mounted first close to its right (ascending) margin, N.W., overcoming several precipitous

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Photo, J. Lagarde.]

ARGENTIÈRE FACE OF LES DROITES FROM TOUR NOIR GLACIER, SHOWING 1930 ROUTE.

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steps. Higher up they took to the left margin, S.E., of the couloir, where, availing themselves of a momentarily quiet interval, they crossed the exceedingly active central avalanche furrow.

Above the couloir the party mounted by still steeper slopes and glazed rocks to the final striking and snowy arête. Following this arête they attained the summit ridge and shortly after the summit itself, 15.15 (40 mins. halts in all from hut to top—just to feed and put on or take off crampons). Party leaving the top at 15.45 descended by the ordinary route, attaining the Couvercle at 21.00 hrs.

The mountain was in fine condition on the day of the ascent. There was no black ice and but little powdery snow. The frozen slopes were composed mostly of softish ice or hard snow; rocks covered with thick ice or firm glaze. The entire ascent, save that of the lower rocks, was accomplished on crampons. The only unpleasant feature was a ceaseless hail of icicles, causing some damage to one of the party. To facilitate the labour to his injured leg, a few steps had to be cut.

The angle is very high throughout this face and halting-places are exceptionally rare, while no help whatever can be sought from the banks of the couloir. These are composed of such absolutely smooth and impossible slabs that not a step is feasible on them from base to top. Had the great couloir contained too much hard ice, the party had settled to abandon it at about 3550 m. and take to the little secondary gully rising from point 3559 m. (*Vallot*) to point 3775 m., finally mounting by the crest of the great N.E. buttress.

J. L.

[M. Lagarde informs us that this was the *seventeenth* occasion during the last 5 years that he had slept at the hut for this ascent, the previous sixteen attempts being all repelled by bad weather.]

Bernese Oberland.

GROSS FIESCHERHORN, 4049 m. = 13,285 ft. By the N. face. September 5, 1930. Herren W. Welzenbach and H. Tillman.[1]

[The N. face is made up of two zones of nearly equal height; the base is rocky, the upper half snowy. The *rocky* zone is seamed by a series of ribs from the base to where it ends about half-way up the face; the general inclination varies but little. The *snowy* zone rising above the rocks is, in its lower portion, composed of a uniform wall; higher up it is cut off by a series of ice-cliffs. The height of the face is about 4000 ft.]

The party attacked the face at the base of the third rib from the right, W. (2 hrs. from their bivouac on the Zäsenberg); the rib taken by the Schumacher-Amstutz party up the Fiescherwand,[2]

[1] From Dr. Welzenbach's notes communicated by Dr. Lauper.
[2] *A.J.* **38**, 215–218.

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and which plunges far deeper into the Fiescherfirn, lies far to the W. Crossing a snowy gutter diagonally to the left, party took the fourth rib, which appears as seemingly split across its crest. This rib was climbed till it flattens out into a slabby zone at an angle of 70°. Bearing diagonally to the left across ice under this slabby

Photo, Ad Astra.]

N. Face of Gross Fiescherhorn, showing 1930 Route.

portion, the party climbed the fifth and gentler rib, following it over its very steep crest till it ended in extremely steep ice (5 hrs. 20 mins.). Moving diagonally to the right, they attained a narrow rock band forming the edge of the snowy wall in the upper zone. Under the ice-cliffs cutting off this slope, and rather to the left, E., of the plumb line from the summit, is a narrow, hanging névé. Mounting this ever-narrowing névé they attained the N.E. arête

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of the peak about a rope's length under the summit, the latter being then reached over névé and a few rocks (3½ hrs., or 12 hrs. 20 mins. from the bergschrund to the top).

Leaving the top at 19.45 the Bergli hut was attained at 23.15 hrs., or 18 hrs. in all. Under good conditions these times could be reduced materially.

Alaska.

MT. BONA,[3] 16,420 ft. First ascent July 2, 1930. Messrs. Allen Carpe, Terris Moore and A. M. Taylor. Party left McCarthy, June 15, 1930, and proceeded with horses to Skolai Pass, June 19, alt. about 4500 ft. Thence up Russell Glacier, with one sleigh, to base of N. ice-face of mountain, about 8700 ft., June 26. Established camp at about 10,500 ft., June 28, and a further camp at about 13,000 ft., in obvious saddle W. of the mountain, June 30. Climbed to about 15,500 ft. from this camp on July 1, but turned back because of blizzard. Reached summit 6.30 P.M., July 2, temperature 0° (F.) with good visibility to S. and S.E. only. Returned to McCarthy on foot *via* Skolai Pass and Chitistone River, July 10.

A. C.

Drakensberg, South Africa.

INTABA ENDANYZANA. First ascent July 1, 1930. Messrs. H. A. Liddle, A. G. Bird and C. Heron.[4] This peak stands out as a separate point on the Natal side of the main Drakensberg range, with which it is connected by a massive ridge. It overlooks to the E. the Ifidi and upper 'Mweni valleys, which at a distance of about 5 miles from it unite to form the main 'Mweni Valley. To the N.E. its slopes fall away to the Sinyati Valley. Having left the camp of the Natal Mountain Club, situated at a height of about 5000 ft. in the Sinyati Valley, the party reached the base of the N.E. face, that aspect of the peak facing the camp. A traverse was now made for a distance of half a mile in a N.W. direction at the head of the steep grassy slopes immediately below the huge rock-walls of the face. A gully —grassy, with rock interspersed—now led up to the rocky wall, which falls away from the ridge connecting the peak with the main range. From the foot of this two roughly parallel chimneys were seen to lead up the wall. The one on the true left was chosen for the ascent. A steep climb of moderate difficulty up this led in about 150 ft. above its foot to a subsidiary ridge at a point between two small pinnacles. A traverse was made just below this ridge round the base of the pinnacle on the true left. This brought the

[3] This mountain is situated about 80 miles N.W. of the Logan-St. Elias range.

[4] A previous attempt from the Ifidi Valley in 1924 by Mr. Liddle failed through want of time.

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party to a small saddle on the subsidiary ridge, which was crossed at this point into the head of an easy, grassy gully. Ascending this they shortly reached the long summit ridge. Turning now to the left, a short rocky wall of some difficulty led the party to easy, grassy slopes which led up the summit in about 5½ hrs. from camp. A cairn was built, as no traces of a previous ascent could be found. The height of the peak is estimated at approximately 9900 ft., and that of the main 'berg' in its vicinity would appear to vary between 9000 and 11,000 ft. Owing to the position of the peak between Mont aux Sources—including the Towers and the Sentinel on the one hand, and the peaks to the S.E. on the other—it possesses a unique view in both directions, including Cathkin, Champagne Castle, the Saddle, as well as the Cathedral, the 'Mweni Needles and Rockeries, whilst beyond the main Drakensberg ridge, which falls away from the Sentinel, the higher peaks of the Maluti range are also visible. The party was confident that there was no other route of ascent. After a joyous half-hour spent on the summit the descent of the actual peak was accomplished by the route of ascent. From this point a more direct route than that taken during the ascent was followed to camp, the latter being reached at nightfall, in about 3½ hrs. from the time of leaving the summit.

O. K. W.

VARIOUS EXPEDITIONS.

Mont Blanc Group.

DÔME DE MIAGE, 3688 m. = 12,188 ft.—AIGUILLES DE TRÉLATÊTE, 3911 m. = 12,832 ft. *B.I.K.* Traverse. August 27, 1930. Mr. C. F. Meade, with Pierre Blanc. Party left Refuge Durier on Col de Miage at 03.30; after traversing the 3 peaks of Dôme de Miage, the plateau at the head of the Trélatête Glacier was attained at 06.05 and the N. peak, 3875 m., of Aiguilles de Trélatête at 08.15. From this peak the ridge was followed over the Aiguille Centrale, 3899 m., with its iced but easy rocks to the S. peak, 3911 m., the highest, 09.20 hrs.

At 09.30 the descent was begun direct from 3911 m. down the very steep snow-slopes of the E. face: these would be dangerous probably later in the day. The party then continued across the same slope under the central peak (3899 m.) till its N. base was attained. Here the route followed during the ascent was resumed over the N. peak and down to the Trélatête Glacier, arriving at the Pavillon de Trélatête at 14.30.

This variation, omitting the central peak either in the ascent or descent, enables one to make the traverse of the 3 peaks complete.

C. F. M.

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Pennines.

DENT BLANCHE, 4364 m. = 14,318 ft. By the E. arête, attained from the S. July 10, 1930. Mr. T. Graham Brown, with Alexander Graven. The party left the Schönbühl hut at 02.00; reached the Col de Zinal at 04.50; and the summit of Dent Blanche at 12.00—with halts amounting to 1 hr. on the way. The summit was left at 12.20; a descent by the ordinary way led to the Schönbühl hut again at 17.35, with 25 mins. halts on the way. We left the Schönbühl hut at 18.15, and reached Zermatt at 20.25.

The snow conditions on the E. arête so comparatively early in a snowy season made it one of the hardest and most interesting climbs in the district. Snow corniches were met immediately above the first gendarme above the Col de Zinal, and continued throughout the arête. Many of the double corniches encountered seem to have their origin in the snow breaking away from close under the ridge, and at one place in its higher part the ridge presented an extraordinary appearance—like a row of séracs in line.

DENT D'HÉRENS, 4180 m. = 13,715 ft. By the W.N.W. face.[1] July 30, 1930. Mr. T. Graham Brown, with Alexander Graven. The party left the Schönbühl hut at 01.55 with the intention of ascending the Dent d'Hérens by the usual route—that up the séracs of the W.N.W. face. The foot of the face was reached at 05.20 under the Tiefenmattenjoch, and left again at 05.35. The ascent was stopped near the top of the séracs by a crevasse and ice wall extending completely across the face, the upper lip of which was at least 50 ft. higher than the lower.

A steep ice couloir, perhaps 570–660 ft. in height, lies between the S. ends of the sérac walls and the W. or Tiefenmatten arête of the Dent d'Hérens. The séracs were descended again nearly to the foot, and then a traverse to the right, S., took the party into the foot of this couloir. A small schrund was crossed, and then the couloir was ascended for about three-fifths of its height. A traverse to rocks on the right was followed by their ascent for perhaps 130–160 ft. The couloir was then re-entered and ascended until an exit was found on the left and above the top of the séracs at about 07.15. The summit was reached at 08.45, 6 hrs. 50 mins. from the Schönbühl hut—some time having been spent in helping a following party.

This route is considerably harder than the ordinary route by the séracs. It has, however, the advantage that it can probably be taken in any year and that it is good and safe when conditions

[1] The now usual route is approximately that taken by Captain V. J. Ryan's party, in the *descent*, in 1906. *Alpes Valaisannes*, ii, 1930, pp. 264–265, particularly recommends it, when snowy, as the best access to the summit from Schönbühl.—*Editor.*

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prevent ascent by the ordinary route. The couloir is clearly shown in the photograph in 'A.J.' **26,** 410—taken in 1911. In 1930 the second crevasse from the top of the broken part of the face (this broken part occupies the lower half of that illustration) stretched completely across the face. The couloir is steepest in its middle portion, just below the place where the rocks were gained. Its angle there is at least 55°–60°.

T. G. B.

ZINAL-ROTHHORN, 4223 m. = 13,855 ft. By the N. arête reached from the E. August 28, 1930. M. E. R. Blanchet, with Kaspar Mooser. This magnificent climb, much more successfully accomplished by the only previous party (August 21, 1907, Messrs. G. W. Young and C. D. Robertson, with Heinrich Pollinger and Josef Knubel, 'A.J.' **23,** 649–50), should be attempted under favourable conditions only. We encountered the reverse—fresh snow melting under a blazing sun, continuous stonefall, water streaming over slabs. Towards the end of the wall, instead of pulling out to the left, S., like our predecessors, we were obliged through increased stonefall and despite the late hour to incline a little to the right, N. The N. arête was attained about half-way between the Mountet Shoulder and the summit, the latter being reached at 18.00 hrs.

The impossibility of approaching the great couloir, even for a moment, as well as having to shelter continuously from falling stones, wasted much precious time.

E. R. B.

[We presume that M. Blanchet intends to strike a note of warning!—*Editor.*]

BREITHORN. Point 4148 m. = 13,539 ft. By the N. arête ('Klein Triftje' or *Younggrat*). August 30, 1930. Messrs. Alfred Zürcher and T. Graham Brown, with Joseph Knubel and Alexander Graven.

[The second *complete* ascent of this arête is said to have been made in 1929 by Dr. von Kehl. An attempt in 1928 ended fatally, 'A.J.' **40,** 423–24.]

The present party left the Gandegg hut at 03.00, and crossed the *Triftjegrat* a little S. of point 3253 m. The Breithorn Glacier was reached by the descent of an easy couloir and its much crevassed surface traversed to the *Klein Triftjegrat,* which was reached at 05.55 a little S. of point 3355 m. A steep, lower snow arête runs up from this point to the first of a group of gendarmes. The arête was ascended until, at about 07.05, a small patch of bad snow was encountered. This provided the greatest difficulty met on the climb, and a short horizontal traverse of only twelve steps to a rock on the right, W., slope of the arête occupied 30 mins. of step-cutting in ice from which the snow had to be cleared. Good snow led straight up to the arête again, and the base of the first gendarme was reached at 08.00. The party halted there until 08.20. Excellent

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rocks led thence over two smaller gendarmes to the Great Gendarme, the summit of which was reached at 09.20. Above the Great Gendarme, traverses were made first on the right and then on the left below the crest of the arête. An ascent of a rock face on the left of the ridge took the party to the crest again at the foot of the upper and very steep ice and snow arête, some 600–650 ft. in height. This was ascended until its termination against the final rock face of the peak, 10.50. The very steep couloir furrowing the rock face a few yards to the right, W., of the top of the arête was filled with black ice. This was traversed to the right, W., to rocks, and the short remaining ascent was made by rocks and snow, the summit being reached at 11.35—8½ hrs. from the hut, including 70 mins. halts. The summit was left again at 12.20, and the descent was made by the Verra Glacier and the Schwarzthor through very deep and soft snow, Roten Boden being reached at 15.30 after several short halts.

The snow on both the lower and upper arêtes was rather soft, and the greatest difficulty in the climb was the more or less accidental one provided by the patch of bad snow below the gendarmes. The upper half of the upper snow arête consisted of ice under a very thin covering of loose snow. The party climbed on two separate ropes with mutual aid during the traverse of the final couloir. The chief difficulty presented by the climb under normal circumstances is apparently the traverse of the final couloir. If this is taken *at the level* of the lowest rock on its right, E., bank, the leader can reach the rocks on the other side within a rope's length of 100 ft. He there gains secure anchorage, and can be safeguarded to a certain extent during the traverse itself by passing the rope over the nearer rocks. This traverse was ably led by Graven. The victims of 1928 apparently attempted to traverse about 100 ft. *below* these rocks, where it is not possible for the leader to reach the opposite bank within one rope's length. The patch of bad snow on the lower snow arête presented very great difficulty but no danger; and the route is a perfectly safe and legitimate one.

MONTE ROSA, ETC. Nordend to Breuiljoch. August 1 and 2, 1930. Mr. T. Graham Brown, with Alexander Graven.

[Our original intention was to climb the Nordend and reach the Margherita hut, and on the following day to traverse the Lyskamm, Castor, and Pollux; and then to descend to Zermatt, after perhaps ascending the Breithorn.]

The party left the Bétemps hut at 04.10 on August 1, and reached the summit of the Nordend at 09.20 by the ordinary way from the Silbersattel. A return to the Silbersattel was followed by an ascent of the Dufourspitze at 11.15, over the terminal end of the summit ridge, the Grenzgipfel and the Ostspitze. The Signalkuppe was reached at 13.45, over the Zumsteinspitze, in 9 hrs. 35 mins. from the hut, including 2 hrs. 10 mins. halts.

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The night was spent at the Margherita hut, left next morning at 04.35. The Parrotspitze and Ludwigshöhe were traversed to the Lysjoch, reached at 05.55. The E. summit of Lyskamm was reached at 07.10, and the W. summit at 07.55, the party arriving at the Felikjoch at 08.45, with 30 mins. halts during the traverse of Lyskamm. The small Felikhorn was traversed to Castor, the summit of which was reached at 09.35. Pollux was reached at 10.55, and the summit of Breithorn at 13.50 from the Breithornpass. The Klein Matterhorn was ascended on the way to the Theodulpass, reached at 15.40. The extremely good snow conditions having permitted good progress, it was decided to continue along the frontier ridge as far as the Breuiljoch. The Theodulpass was left at 16.20, and the farther W. point (3362 m.) on the Furgggrat was reached at 18.25 over the Theodul and Furgghörner. The descent was made on to the Furgg Glacier; the Schwarzsee Hôtel was reached at 20.00, left again at 20.15, and Zermatt was reached at 21.25—16 hrs. 50 mins. (including 2 hrs. 5 mins. halts) from the Margherita hut.

The ascent of Pollux was made by the S. face up a rib of rock about midway between the E. and S.W. arêtes, the summit ridge being reached, by a short snow couloir and slope, about half-way between the summit and the uppermost rocks of the S.W. arête. This proved to be a good and quick line of ascent, but of no particular interest.

T. G. B.

ALPHUBEL, 4207 m. = 13,803 ft. By the W. face reached from N. branch of Weingarten Glacier. August 2, 1930. M. E. R. Blanchet, with Kaspar Mooser.

[The N. branch of the Weingarten Glacier is bounded on the E. by the Mischabeljoch. On the *S. map*, rather inaccurate in detail as regards the Alphubel, the sérac-composed wall, towering above and to the S. of this branch, is barely noticeable. Draw two straight lines, one perpendicularly from the *8* of the figures 3856 and the other to prolong horizontally the word *Weingarten*; at the point of intersection of these lines is situated the sérac wall. Bounded to the E. by the N. arête of the Alphubel coming from the Mischabeljoch, this face or wall is about 1000 ft. in height. From the base of the slope to the bergschrund the angle is not excessive, but just above the schrund an ice wall, some 120 ft. in height and *quite* vertical, constitutes the key to the position. After the wall the slope measures some 45°; the point of junction of the slope with the great summit plateau forms another vertical ice wall some 80 ft. high.]

From the Täschalp follow the route of the Mischabeljoch, bearing subsequently rather to the right, S.E. Wearing crampons, we reached and crossed the easy bergschrund and attained the foot of the lower ice wall. To climb this wall, rising at a right angle with our course, took no less than 3 hrs. 20 mins. of step-cutting. Progress had to be made in a spiral, thus increasing the vertical distance to

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Photo, W. H. Amstutz.

ROTBRETTGRAT from 'Hornby and Philpott' Route.

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be cut. Mooser cut enormous steps a yard apart, as well as deep handholds; moreover, he had to slice off great slabs to make room for our left shoulders. After 1 hr.'s labour Mooser's axe broke, and I had to hand over my veteran ('Andenmatten') weapon, which nevertheless did the needful. Above the wall we encountered excellent snow, which led almost uninterruptedly upwards between

Photo, E. R. Blanchet.]

ALPHUBEL, W. FACE.

1930 route lies between the two tracings.

two lines of séracs. We mounted very quickly, crossing two easy crevasses. The upper and quite vertical ice-wall was turned to the left by a diagonal ledge. Having attained the great summit plateau, we got lost in thick fog, but a short clearance enabled us to find the S.W. ridge leading to the Alphubeljoch, which was descended in thick fog and rain to the Wand Glacier and Täschalp and thence to Zermatt.

E. R. B.

Bernese Oberland.

JUNGFRAU, 4166 m. = 13,669 ft. By the N.E. arête and W. flank, *Rotbrettgrat*. September 4–5, 1930. Herr Ernst Gertsch, with Hans Schlunegger. Party left Jungfraujoch early on September 4, reaching the summit of Jungfrau about 13.00 hrs. The difficulties of the N.E. arête were great and there was much snow and ice; its ascent took 8 hrs. Leaving the summit at 14.00, they descended to the Silberlücke, whence they traversed the so-called Goldenhorn, descending thence by the *Rotbrettgrat*. Somewhere about where the said ridge—behind the Schwarzmönch—falls vertically, the party bivouacked at about 18.00 hrs. on a rock ledge at about 3200 m.

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On the following morning they descended to the Rotbrettlücke behind the Schwarzmönch, encountering serious danger from stone-fall in the main couloir, which compelled them to shelter for 1 hr., after which the remainder of the descent was accomplished with difficulty. No times given, but the entire day was required.—From *Sport.*

[This is, we believe, the first descent of the *Rotbrettgrat*, and, with the ascent by the N.E. arête, forms a tremendous combination.]

Bernina (W. Wing) Group.

Cima di Rosso, 3368 m. = 11,048 ft. By the N.W. face. June 22, 1930. Count A. Bonacossa and Dr. W. H. Amstutz. We left the Forno hut at 01.45, attaining the base of the N.W. face at 03.45. We then cut up a kind of gully in the icy slopes of that face, then the very steep face itself about half-way up, or a little higher, and then took to the rocky ridge (08.40) leading to the summit, attained at 12.15. The ascent of the gully is somewhat dangerous.

W. H. A.

[This route lies farther to the E., *i.e.* nearer the Vazzeda-Rosso watershed, than the 'direct' routes from the Forno hut hitherto taken.]

Central Group.

Piz Scerscen, 3967 m. = 13,016 ft. By the N. face.[2] August 19, 1930. Messrs. A. Zürcher and T. Graham Brown, with Joseph Knubel and Alexander Graven. The party left the Tschierva hut at 05.10, ascended the Tschierva Glacier to the N.E. of Piz Umor, and reached the edge of the snow crest connecting the latter small peak and the projecting base of the N. face of Piz Scerscen, at 07.35. The very prominent bulge was then followed over good rocks to the base of the 'ice-nose,' attained at 08.30. A short slope of snow led up from the top of the rocks until it merged in a steeper slope of ice, above which again was a very steep and almost unbroken ice cliff. The top of this was about 215 ft. above the foot of the ice-slope, and its steepest upper part was probably more than 165 ft. in height. There was an ice chimney in the face of the cliff a little to the right. Graven, who led with great ability, cut at first direct up and then to the right to the foot of the ice chimney. This traverse was over ice the angle of which we estimated at nearly 80°, and steps 3 ft. deep had to be cut. The ice chimney proved to be impossible of ascent, and

[2] During the last few years this route, the original line of ascent from the Swiss side, has come again into its own. The variations, formerly taken to the W. and E. of it (*Climbers' Guide*, ii, pp. 74–5), are now probably *both* impossible owing to the gaping bergschrund and dangerous séracs, respectively.—*Editor.*

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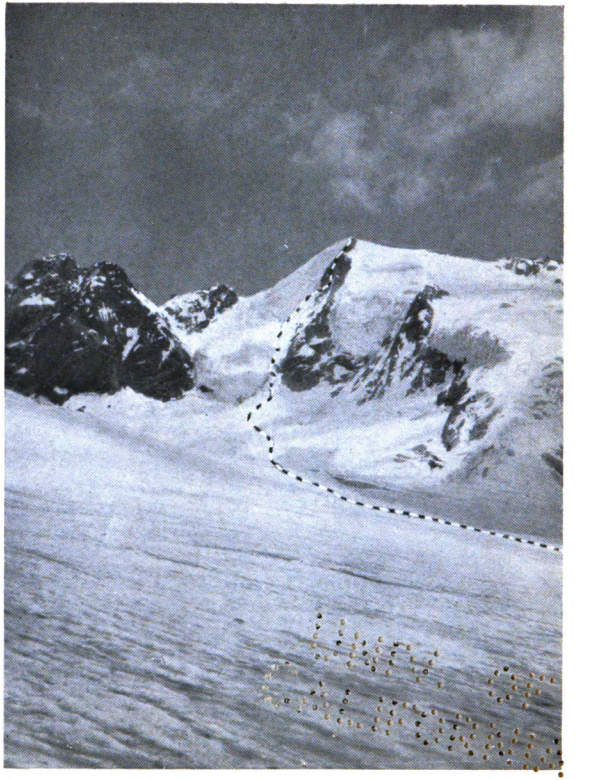
Photo, W. H. Amstutz.

PIZ QUALIVO (Ferro Orientale),
N. Face, showing 1914 Route.



N. Face of CIMA di ROSSO
with 1930 Route.

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an even steeper upward traverse to the left was necessitated to a shallow groove in the face where the angle eased somewhat. Graven reached the top of the ice-nose after 1¼ hrs. continuous step-cutting, while the remainder of the party arrived at 11.00, the summit being attained at 12.50, after 40 mins. halt. The summit was left again at 13.05, and the descent made to the Upper Scerscen Glacier, whence an attempt to gain the Marinelli hut was frustrated by a friendly warning of frontier difficulties. The party reascended accordingly to the Marco and Rosa hut by the Sella Crast' Agüzza, where the night was spent.

The condition of the ice-nose varies much from year to year. We found it an unbroken but secure ice-face. The ascent of the nose itself is very exposed and sensational. For the leader, it presents the only serious difficulty on the climb.

Piz Roseg, 3942 m. = 12,934 ft. By the N.E. face. August 23, 1930. Messrs. A. Zürcher and T. Graham Brown, with Joseph Knubel and Alexander Graven.

[Piz Roseg was first climbed by its N.E. face by Mr. L. Norman Neruda, with Christian Klucker, on July 16, 1890 ('A.J.' **15**, 314, 461), when they ascended the face to the gap between the two main peaks of Piz Roseg, and thence reached the summit by the N.W. arête in a little less than another hour. The face was again climbed by Herren von Tscharner and S. Schönenberger in 1924 (*Die Alpen*, 1925, pp. 181–82).]

One member of the present party with the two guides ascended Piz Roseg on the preceding day by the ordinary route in order to test the condition of the upper part of the N.E. face and examine the ice-cliff immediately under the N.W. peak or *Schneekuppe*. The mountain was then descended by the N. arête and a circuit of the upper Tschierva Glacier was made under the N.E. face to examine the lower part of that face. The glacier is much broken near the base of Piz Umor, but the track thus made enabled the party on the following day to reach the foot of the face by lantern-light and probably saved at least 1 hr.

The party left the Tschierva hut at 02.10 on August 23, reaching a point close under the N.E. face of Piz Roseg at 05.10, where a halt was made for 10 mins. The height of the face appears to be about 2000–2100 ft.—almost the same as that of the W. face of Piz Bernina. Its lower two-thirds are occupied by a steep rock-mingled ice-slope and two high ice-cliffs stretching across the whole face with the exception of a gap between them. This gap appears to be in a direct line beneath the N.W. peak. The party, climbing on two separate ropes, crossed the bergschrund and ascended the very steep snow and ice slopes in the gap. An endeavour was made to keep as much in the centre of the gap as possible, but the conditions and the lie of some exposed rocks forced the party towards the left-hand, S.E., ice-cliff, between which and the line of ascent

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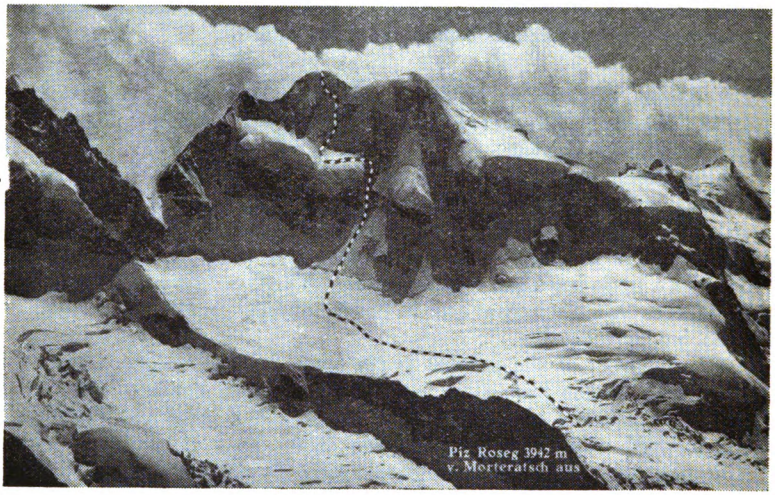
lay a very steep ice-couloir. When the level of the sloping shelf above the left-hand ice-cliff was reached at about 1000–1150 ft. above the bergschrund, a difficult traverse was made to the left across very steep ice and on to this shelf. Mr. Norman Neruda's line of ascent ran from the near, N.W., end of this ice-shelf directly up to the gap between the two peaks (see marked illustration, 'A.J.' **15,** 471). The present party traversed the ice-shelf farther to the left, S.E., to a point nearly in a direct line underneath the summit. There is a crevasse immediately above the shelf, and the face rises above this for about 900–1000 ft. in one steep, smooth slope to the summit. The crevasse was crossed at 07.10 and the



Ice-nose of P. SCERSCEN

PIZ ROSEG, N.E. FACE, WITH 1930 ROUTE.

direct upward line of ascent took the party up past the N.W. ends of two upper ice-cliffs on the left. The condition of the snow was at first good, but ice was met about 165–200 ft. below the level of the upper of those ice-cliffs, and the remainder of the ascent was made up a hard and bare surface. A small crevasse, the N.W. continuation of the upper ice-cliff, was crossed; and then the line of ascent was slightly to the right towards a small rocky outcrop just under the summit ridge. This was reached and a few feet of good snow led to the N.W. end of the level summit ridge, whence a short horizontal walk brought the party to the summit at 09.00, or 6 hrs. 50 mins. from the Tschierva hut, including 35 mins. halts. The summit was left again at 10.00, and a descent was made by the N. arête, the Tschierva hut being reached at 12.45, a total expedition of 10 hrs. 35 mins., including 2 hrs. halts.

The climb is one of very great interest, and the whole of the

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upper part of the face above the ice-shelf, perhaps some 1000 ft. high, is exceptionally exposed, while its angle is severe. The steepest part of our ascent was in the lower part and the face immediately below the ice-shelf. There was, however, little variation in the general angle. The condition of the snow, where encountered, was excellent.

Piz Bernina, 4055 m. = 13,304 ft. By the W. face *direct* from the Tschierva Glacier. August 18, 1930. Messrs. Alfred Zürcher and T. Graham Brown, with Joseph Knubel and Alexander Graven.

[The two parties of August 26, 1880 (Mr. Benjamin Wainewright; Prof. Minnigerode and Dr. and Frau Tauscher-Geduly—'A.J.' **10**, 100), ascended on the N. edge of this face and partly by the rocks of the W. rib of Pizzo Bianco to the gendarme S. of the gap between that peak and Piz Bernina (*i.e.* just S. of the *Berninascharte*); and thence attained the summit of Piz Bernina by its N. arête.[3] Dr. Güssfeldt approximately repeated this climb on September 18, 1884, as far as the *Berninascharte*, whence he descended over Pizzo Bianco. On August 12, 1885, Mr. W. Williams ascended this face, apparently on its S. edge or by the couloir to its S., to the gap between Piz Scerscen and Piz Bernina (Fuorcla Scerscen-Bernina), and thence reached the latter peak in 1½ hr. more by the 'Shoulder' and its S.W. arête ('A.J.' **12**, 127). The routes followed by these parties avoid the steep rock face above the ice-slopes by gaining the long summit ridge near the gaps on the N. and S. respectively; and the very steep upper part of the ice-slope is probably also avoided partially or wholly. The face itself consists in a very steep slope of ice broken by ice-cliffs and traversed in its upper part by two crevasses, one some distance below the other. The ice terminates above at the foot of the wide rock rampart forming the summit ridge of Piz Bernina from the *Scharte* on the N. nearly to the Fuorcla Scerscen-Bernina on the S. A very steep rock rib plunges direct from the summit of Piz Bernina into the ice-slope.]

The present party, having made a careful examination of the face from close beneath it on August 14, left the Tschierva hut on August 18, at 03.00. The foot of the face, which appears to be about 2000–2100 ft. in height, was reached at 06.25. A high and sheer ice-cliff prevents (in 1930: great variations occur in the ice formations) direct upward access to the face in its southern three-quarters, but leaves a passage up in the northern quarter of the face. The party, climbing on two separate ropes, crossed the bergschrund at two different places under the N. quarter of the ice-face and almost immediately under the *Berninascharte*. Good snow was encountered, but the angle increasing rapidly the face was ascended

[3] The Hungarian party struck the very uppermost portion of the N. arête. The route was pointed out to us from the surface of the Tschierva Glacier, by Aloïs Pinggera, one of the guides of the 1880 party.—*Editor.*

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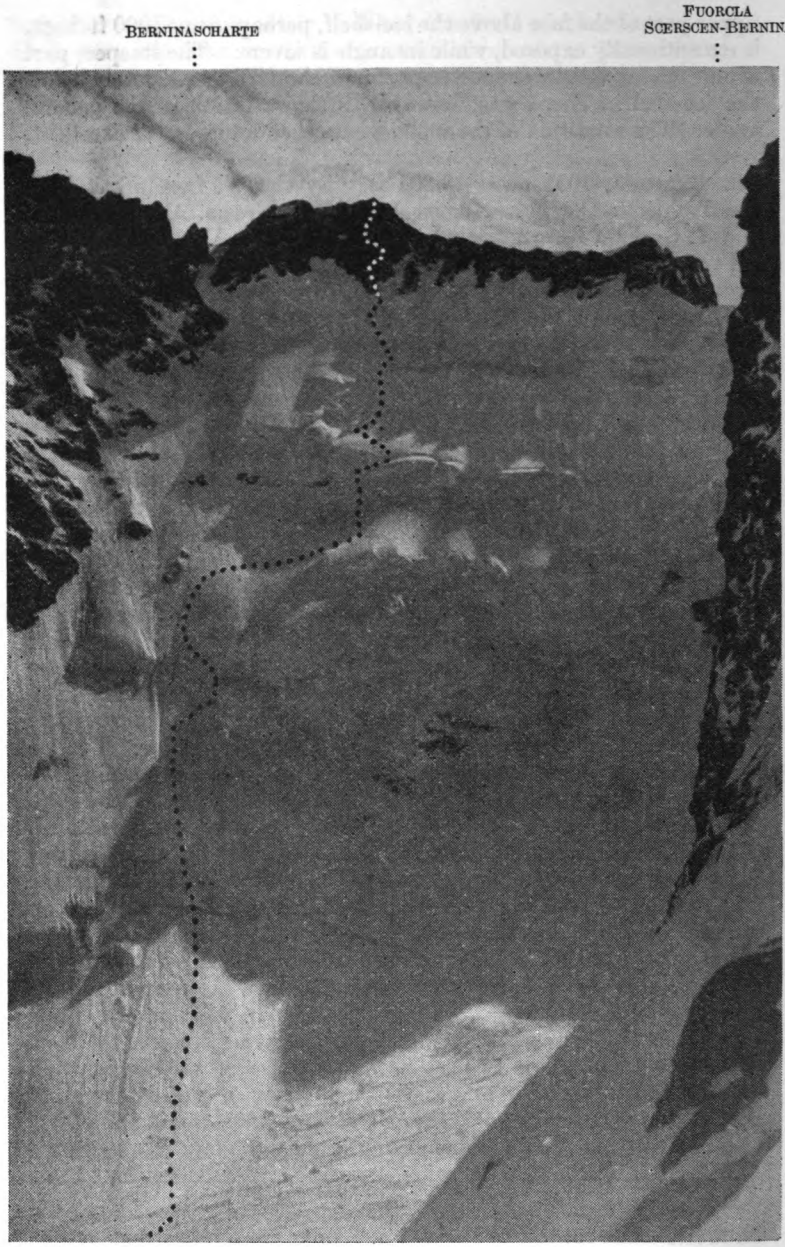

Photo, T. Graham Brown.]

W. FACE OF PIZ BERNINA, SHOWING 1930 ROUTE.

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in a straight line just N. of the end of the ice-cliff. An upward traverse was made to the right, S., at the level of the top of this cliff, and the sloping shelf above the cliff was gained and traversed until the party had come to a point almost in a direct line below the summit. Here a direct upward ascent was made to the lower of two crevasses which extend far across the face. This crevasse was crossed, and an ascent was made slightly to the left to the base of a small ice-cliff under which the party rested. This place was left at 07.50, and a way was forced direct up the ice-face to the next crevasse, and thereafter to the lowest rocks of the rib descending from the summit. The face becomes progressively steeper during the ascent, and the highest ice-slope—between the upper crevasse and the rocks—is the steepest. Its angle certainly exceeds 55°, and appears steeper than the steepest part of the N.E. face of Piz Roseg. The rocks were reached at 08.10 and crampons taken off. The height of the rocks cannot be much more than 330–400 ft., but they are very steep, and actually overhang below the summit. There are, however, many holds. An upward traverse to the right was followed by one to the left, by which a steep and ill-defined rib was gained. This led up to the foot of an ice-filled chimney. After a few feet of ascent, in which the ice of the chimney was straddled on bad rock, the wall on the left, S., was climbed on to a steep rock rib upon the upper end of which was the summit signal. This was reached at 09.00, in 6 hrs. from the Tschierva hut (including 50 mins. halts). The summit was left again at 10.15, and the Tschierva hut was reached at 16.00 over Pizzo Bianco and the *Biancograt*—the whole expedition having occupied 13 hrs., including 3 hrs. halts.

The conditions for the ascent were almost as good as they could have been. The snow was generally in excellent condition, but lay thinly on the uppermost part of the slope, in the ice of which steps had to be cut. The lower part of the slope below the traverse also involved step-cutting. The rocks are steep, but afford many holds; the finish of the climb is dramatic and ideal. Under similar conditions, this route is strictly comparable to the N.E. face of Piz Roseg, and might be found even harder under equally bad conditions—*e.g.* much bare ice. The Siegfried map gives the average angle of the whole face at about 55°, or about 10° *steeper* than the corresponding angle for the N.E. face of Piz Roseg. T. G. B.

Piz Palü, Central Peak, 3912 m. = 12,834 ft. By the N. face. September 2, 1930. Herr F. Devantay, with Simon Rähmi[4] and J. Götte.

[From each of the three peaks of Piz Palü a very steep rocky rib plunges northwards to the Pers Glacier; each peak has occasionally

[4] This excellent guide, breaking happily away from Pontresina traditions, has accomplished much good work as leader *throughout* the Alps.—*Editor.*

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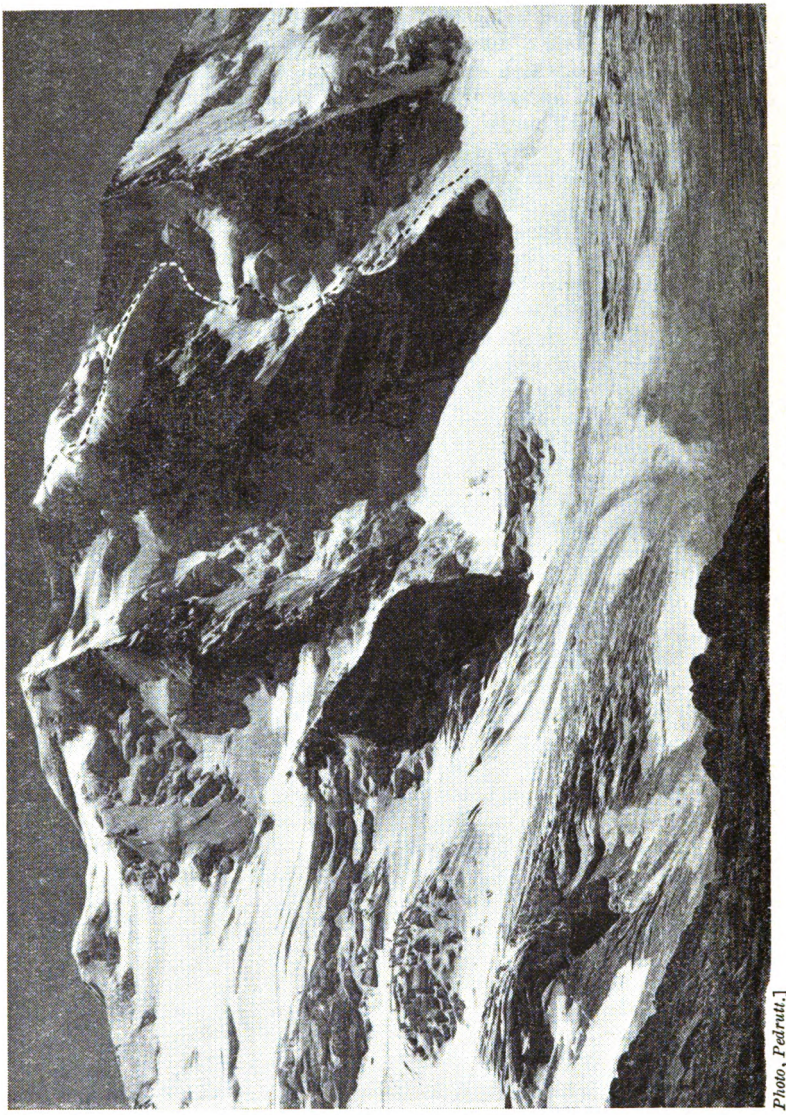
been ascended by its own particular rib or arête. Finding conditions perfect, the party of September 2 mounted the very steep icefall



PIZ PALÜ, N. FACE, SHOWING 1930 ROUTE.

Photo, Pedrutt.]

and broken séracs of the face to the W. of the central rib, the so-called *Bumüllergrat*. The climb was accomplished entirely in shade and no falls of ice whatever occurred.]

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The first party, leaving the Diavolezza inn at 03.00, attained the bergschrund at 05.00. Thence they forced their way up and through the formidable icefall, overcoming three precipitous steps in the sérac wall, till they debouched on the upper glacier shelf, whence very steep ice leads to the summit, 10.20.

The party describe their route as one of great beauty and interest, but also as one that can seldom be reasonably attempted.

E. Wing Group.

Corno di Campo, 3234 m. = 10,610 ft., *S. map.* By the S.E. arête and face. September 5, 1930. Count Aldo Bonacossa and Colonel E. L. Strutt. From Campo Alto, 2069 m. (dep. 06.00), in Valle di Campo (Val Viola), bear N. to commencement of long S.E. arête. Over steep grass, débris, and lastly S. slope of rocky crest attain a great gap. Steep and lofty gendarme here confronted party which turned its lower slabs—these could be climbed—by a *descent* and traverse to the N. Main S.E. arête regained at another and much higher gap. Then either by serrated ridge, or its S. slope, over shattered rocks to junction of N.E. and S.E. arêtes, whence the top is soon attained, 11.55. Descent at 13.00 due N. (and *immediately* below summit) over awkward rocks to the very icy Paradisino Glacier; thence down that glacier, bearing W., finally its very steep moraine, to the Passo Val Mera (Livigno) track and down Val Mera to Campo Alto, arriving at 15.55 hrs.

Very interesting expedition, but much rotten rock.

Drakensberg (South Africa).

Intaba Endanyazana.—The second ascent was made, July 4, 1930, from the Natal Mountain Club camp, by the Misses Hiscock, Hislop, M. Frazer, P. Frazer, B. M. Evans, Frank, Theobald, and J. Simkin, and Messrs. H. A. Liddle, H. Williams, W. E. Marriott, L. B. Ripley, and O. K. Williamson. The same route was followed as that taken on the first ascent, and great credit is due to the first party for working it out. A direct route was followed to the peak. The chimney up the rocky wall was about 70 ft. in height, and great care was needed owing to loose rocks. Above this the steep grassy slopes of the gully exhibited patches of snow, necessitating great care. A furious and very cold intermittent wind precluded more than a few minutes' enjoyment of the fascinating summit view. The actual time of the expedition, exclusive of halts, was approximately 8 hrs., of which about 1½ hrs. were consumed in the ascent and descent of the actual peak. The height of the peak above the foot of the rocky wall, at which point the actual climbing begins, is estimated at about 400 ft. The weather, apart from the wind, was perfect.

Mont aux Sources Plateau—Direct ascent from head of Sinyati Valley, July 7, 1930. The Misses Hiscock, Hislop, M. Frazer,

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P. Frazer, Frank, J. Simkin, Douglas, and Crosby-Spratt, and Messrs. H. A. Liddle, W. E. Marriott, L. B. Ripley, J. L. Simkin, and O. K. Williamson. The first ascent to the gap between the Inner Tower and the main Drakensberg had been made by a party led by Mr. Topp a few days previously. The route from this point to the plateau had been followed in a previous year on the descent by Mr. H. A. Liddle in the course of an ascent of the Inner Tower. Thus our route, although it had not previously been used as a means of ascent of Mont aux Sources, was not new in its component parts. Having left the camp about 8 A.M. the party followed the bed of the main stream. Some 2 hrs. up the valley the direction which had previously been more or less W. bends to a more northerly course, the rock scenery being magnificent. After a time the walls of the valley closed in to form a gully, enclosed by precipitous rocky walls. The gully steepened and some ice was met with. The last 200 ft. or so consisted of grass interspersed with a few rocks, and the party thus reached the narrow gap between the Inner Tower and the edge of the plateau at about 1.30 P.M. A steep chimney on the true right of the gully starting a few feet below the gap was now climbed. It was about 60 ft. high, not difficult, but contained some loose rocks. A slightly ascending traverse to the left with an awkward ledge on it brought the party to a series of steep and easy gullies, containing, however, many discreditably loose rocks and rising about 200 ft.: these led up to the Mont aux Sources plateau at a point (about 2.30 P.M.) where this rises in a S.W. direction about 400 ft. to the top of Mount Amery.[5] Turning to the left the easy slopes of this were ascended to the summit of Mount Amery, reached just before 3 P.M., where a bonfire was made. After a night spent in the excellent new hut on the Mont aux Sources plateau, the descent to camp from the plateau was made on July 8 by the route of ascent. Perfect weather was experienced on both days, a little snow being met with in the gully.

O. K. W.

ALPINE NOTES.

The Alpine Club Obituary:	Date of Election
Browne, The Rt. Rev. Bishop G. F.	1864
Hoare, H. Seymour	1873
Jose, T. P. H.	1877
Layton, E. J.	1877
Carr, Ellis	1888
Dixon, H. B.	1894
Hope, R. P.	1899
Wollaston, A. F. R.	1903

[5] *A.J.* **40**, 110.

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THE ALPINE CLUB OBITUARY (*continued*):	Date of Election
Jenkins, A. Stuart	1907
Dawson, Rev. Canon J. E.	1908
Allen, Dr. Freeman	1911
Nansen, Fridtjof (Hon Member)	1902
Gabet, Baron F. (Hon. Member)	1920

'THE CLOSING OF THE ITALIAN ALPS.'—There is nothing fresh of importance to report in this matter. Two glacier passes and a grass pass have been thrown open to travellers, from July 1 to September 15, in the chain of Mont Blanc and the Pennines. But this concession affects only a minimum of the entire length of the Alpine frontier. We trust that the time is at hand when the Italian Government may be convinced that there is no adequate reason why the restoration of normal regulations on the said frontier should be delayed any longer.

ARMAND CHARLET.—We regret to hear that this well-known guide met with another very severe accident while ski-ing this spring. Descending from Lognan at full speed, he collided with a tree, fracturing his thigh and suffering further serious injuries.

MATTERHORN by the 'Penhall' couloir.—This ascent was effected on July 18–19, 1929, by Herr Fritz Hermann,[1] *alone*. Excluding a very exposed bivouac high up on the N.W. face, the time of the ascent was 13 hrs. This, we believe, is the first attempt on the mountain by this route since the 1879 success and the 'mad adventure' of Herren Lammer and Lorria in 1887.—From *Allgemeine Bergsteiger Zeitung*.

CLUB HUTS in the Mont Blanc Group.—A much-valued contributor and very experienced mountaineer writes as follows: 'It is very evident [1930] that huts in this district are becoming useless unless *bewirtschaftet*, and even then the Couvercle is a Black Hole of Calcutta, worse than an overcrowded guard-room: of the others, the Vallot, Argentière, Aiguille du Goûter (and, of course, the Couvercle), are filthy beyond words, while the Midi has fortunately departed this life, or so it is written. One decent hut, the Requin, seems to have escaped the notice of the hotel-keepers, but the overcrowding of it in August can be appalling. The Charpoua is decently kept, but, as the guides point out, it belongs to them and is not a *Club* hut. Moreover, it is frequented by serious climbers and not by picnickers come to view the sunrise. As to the Leschaux hut, there seems to be a conspiracy of silence, for its popularity might clash

[1] Herr Hermann is one of the two amateurs who disappeared on the E. face of the Zinal-Rothhorn this July, p. 350.

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with that of the Couvercle or Requin. It was clean and unvisited when we went there early in the season. No doubt a few . . . would soon convert it into a sty to suit their own requirements. There is a new hut endowed by some crank and built on the Mer de Glace face of the Grépon.[2] . . . A month ago I wrote in the Argentière hut book that I had not had time to clean out this "Augean stable," and its condition has not changed.'

We are in complete agreement with our correspondent and, in fact, his description would apply to very many of the *cabanes* in the French Alps, with the possible exception of those *bewirtschaftet* huts in the Western Graians. The contrast between these ill-built and badly-found Mont Blanc and Dauphiné huts and the vast majority of those belonging to the S.A.C., and of *all* those of the D. & Œ.A.V., must be humiliating to serious French mountaineers. Government action prevents us from passing any personal comments on the present condition of Italian huts, but reports are favourable.

Mr. Meade, who has spent five months in the Mont Blanc Group this summer, strongly advises mountaineers not to use any of the huts, but to take tents, as the condition of the former is a 'monstrous scandal and disgrace.'

C.A.I. Shelter Huts.—A small hut of the 'improved' type was opened last August on the N.E. spur of the Pizzo di Scotes (2976 m.) in the Bergamasque—or as Professor Corti, a great authority, prefers to call them—'Orobian' Alps. From Armisa in the beautiful Arigna glen, the hut, situated at about 2500 m., is accessible in about 4 hrs. Constructed by the Valtellina Section, C.A.I., it is appropriately named 'Alfredo Corti.' This new hut should open out the interesting district round about the Pizzo di Coca, 3052 m., now completely neglected by British mountaineers.

An interesting ascent of the Matterhorn.—'Miss Ethel Whymper, only child of the late Edward Whymper, traversed the Matterhorn on August 27, thus just about 65 years after her father's first ascent—July 14, 1865.

'She was accompanied by myself, with the guides Johann Summermatter and Ludwig Zurbriggen, and the ascent was made in beautiful weather by the ordinary route, from the Belvedere to the summit, with descent to Breuil. The mountain was in very good condition and we had a most enjoyable day. We fully expected to be stopped by frontier guards, armed to the teeth, and were positively disappointed to reach the hotel at Breuil without having caught sight of even one!

'I may say this was Miss Whymper's second season of serious climbing, and she "went" as was only to be expected of her father's daughter.' G. Davidson.

[2] Cf. *A.J.* **41**, 220.

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WETTERHORN from the Grosse Scheidegg.—The mountain, according to press reports, was scaled in 9 hrs. by [?] Dr. Finzi's route to the Scheidegg-Wetterhorn [3] and thence over the N.W. arête, on August 2, 1930, by a Mr. W. G. [?] Standing with Joseph Georges, *le skieur*, of Arolla. The route appears new only in combination, but the 'times,' if given correctly, are remarkably rapid.

JAPANESE MOUNTAINEERING.—An overseas expedition by a group of Japanese mountaineers is now being considered. This would embrace the ascent of KLUCHEVSKAYA as first item on the programme. This mountain, the highest (16,124 ft.) in Kamchatka, is an active volcano hitherto unconquered. We wish our Japanese colleagues complete success.

MT. FAIRWEATHER.—This very difficult peak, 15,400 ft., situated on the Canadian-Alaskan boundary, has now been the subject of two attempts. The first, made a few years ago by Messrs. W. S. Ladd and Allen Carpe with Andy Taylor, resulted in a height of 9500 ft. being attained when a great notch in the ridge, apparently inaccessible, stopped the party. In 1930 another attempt was made by a party of six, led by Mr. Bradford Washburn. This party, perhaps underestimating the time and length of the expedition, turned back, wisely if reluctantly, at an altitude of about 7000 ft.

In both expeditions a dangerous landing had to be made through the surf of the Pacific.

BRITISH HIMALAYAN EXPEDITION.—Mr. F. S. Smythe intends to attempt the ascent of Kamet, 25,400 ft., in the summer of 1931, with an all-British party. The expedition would be in position about the month of May.

Huts at COGNE.—A new C.A.I. 'shelter-hut' has been built at a height of about 2400 m. on the N. arête of the Roccia Viva. The hut is easily accessible from Valnontey. No attempt has been made to restore the Piantonetto hut, now completely ruined.

FINSTERAARHORN, N.E. face.—The third (or fourth, counting the Ober Studerjoch 'arête' or rib as part of this face) ascent was accomplished on September 3, 1930, by Miss Miriam O'Brien with Adolf and Fritz Rubi. From the base of the 'Grey Tower' ('A.J.' **34**, 272–3) the party was obliged to bear to the *right*, N., the N.W. arête being attained some 300 ft. from the summit. Times: Strahlegg hut dep. midnight; N.E. face commenced 04.30; summit, 17.30. Conditions so bad that it 'approaches the limits of possibility, and for over 100 metres was just flirting with death'—so Adolf Rubi. H. L.

[3] *A.J.* **41**, 404–6; **42**, 1–15.

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Drawn by O. Hug.]

N.E. Face of Finsteraarhorn.

Showing (left to right) 1929, 1906, 1904 'Bell rib,' and 1904 routes, latter to Hugisattel; also route over N. slope of Ober Studerjoch.

Giessen Glacier.—This crevassed and precipitous glacier was descended throughout its entire length to the Trümletenthal in 3 hrs. from the foot of the Klein Silberhorn. The glacier resembles the Kühlauenen, but is about six times as long. Much danger from falling ice: August 19, 1930, Herr E. Glättli with Christian Rubi. Dr. Lauper's route ('A.J.' **38,** 315–21) is far safer.

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PIZ BERNINA.—According to press reports, it is proposed to construct a railway from Morteratsch to the summit. We wish the scheme all manner of material and financial disaster.[4]

AIGUILLE NOIRE DE PÉTÉRET, S.E. arête.—Sinister rumours have been circulating to the effect that this superb ridge, with its great, mostly unclimbed towers and gaps, was being made 'safe for democracy.' A certain firm interested in the sale of mountaineering requisites was reported as having been engaged—through the agency of four young men—in festooning the crest with ropes and stanchions conspicuously marked with the said miscreants' trade-marks. Such an act, while proving the utter imbecility of its originators, is positively wicked both on sporting and moral grounds. Now we get the sequel. The four youngsters 'were waiting to find someone who would pay them well enough and then take him to finish the climb. Two Bavarians (Herren H. Schaller and K. Brendel) heard and took advantage of it; the four Courmayeur boys got what they deserved.' [The upper portion of the arête, above the *Pointe Welzenbach*, is declared to have been 'quite extraordinarily difficult.'] The 'ascent' took two whole days, August 26–27.—*Communicated.*

It will be recollected that a similar outrage was committed on the *Père Eternel* and *La Vierge* of the Dames Anglaises.

MATTERHORN by the Furggen ridge.—On September 2, 1930, Signor E. Benedetti of the C.A.I. with Louis Carrel and Maurice Bich left the Pavillon de Riondet, *ca.* 2755 m., at 03.30, the Col du Breuil at 06.00, and attained the Furggen shoulder at 10.30. The leader, Carrel, succeeded in reaching the summit at 13.30.

'The party, following the example of Signor Piacenza [in 1911], descended from the Furggen Shoulder on to the S.W. or Italian face, thus avoiding the direct ascent. Thence they discovered a line of ascent *between* the Piacenza route and the *true* crest of the arête. *In my opinion*, the true arête, with its great overhang which stopped my ascent, has still to be overcome. It was, of course, descended by Blanchet. [Cav. Rey with a ladder and ropes had accomplished the entire ridge, up or down, in 1899—*Editor.*] It seems to me, therefore, that the "Furggen" still maintains, from the shoulder to the summit, some exciting moments for another and bolder mountaineer on the look-out for a "first" ascent! But this in no way detracts from the merit of the climb in question.

[4] A very eloquent protest appears in *Die Alpen*, 1930 [pp. 203–4], from Dr. Anton Hoessli, ex-President 'Bernina' Section S.A.C., supported by another from Herr C. Eggerling of the 'Rhaetia' Section. The editor adds that it is to be hoped that the 28,500 members of the S.A.C. will be able to achieve something towards scotching this disgraceful proposition—and so say all of us.

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'I stayed more than two months in Breuil; the weather was not fine, but, in spite of that and old age, I find always great physical and moral rest in those quiet surroundings amidst familiar peaks, which I am now content to contemplate from below.'

GUIDO REY.

A full account, received subsequently through the courtesy of Dr. U. Balestreri and confirming Cav. Rey's views, will be published in the next number.—E. L. S.

AIGUILLE DE GRÉPON.—The 'Grand Gendarme' was ascended in the course of a S.–N. traverse by its *Nantillons* face and without artificial aids or the help of a rope from above, on August 26, 1930, by Mr. M. Vyvyan with Joseph Georges, *le skieur*. 'Rubbers' are stated to be obligatory.

PIZ BADILE, N. FACE.—Walter Risch with a (?) Swiss mountaineer is reported to have accomplished the ascent last August in some 11 hrs., while on August 22 Herren K. Wien and Künigk accomplished it in 7 hrs. from the *Einstieg*, and on August 28 Herren Künigk and Hartmann repeated it in 6 hrs.! 'Sic transit gloria Bregagliae.'

H. L.

Herr PAUL SCHUCAN.—We much regret to report the death of this very distinguished Grisons mountaineer at the age of 51.

BERNESE OBERLAND, *Climbers' Guide*.—Dr. Hans Lauper (31 Bahnhofstrasse, Zürich) requests members to send notes of any new or unusual expeditions, accomplished between Gemmi and Grimsel, to him *without* delay.

GRANDES JORASSES, W. to E. traverse.—This remarkable feat was performed by a British lady climber, Miss Geraldine Fitzgerald, with Alfred Couttet and Marcel Bozon, on August 31. The point of departure was the Leschaux hut, which was regained some 22½ hrs. later. The ascent of *Pointe Young* from the Col des Grandes Jorasses seems to have caused most trouble.

'Times':	Leschaux hut . .	dep.	03.10
	Col des Grandes Jorasses	arr.	07.15
		dep.	07.30
	Pointe Young . . .		09.50
	Pointe Walker . . .		14.30
	Col des Hirondelles . .		19.40
	Leschaux hut . .	arr.	01.30

COL DU LION.—Herr von Kehl's party last August, starting from the Schönbühl hut, reached the Col du Lion from the N. (? sixth ascent + one *descent*), ascended the Matterhorn by the Italian ridge

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and descended by the Z'mutt to Zermatt—apparently all in *one* day and a very remarkable combination.

F. O. S.

CÉSAR OLLIER.—The death of this well-known guide as the result of a non-mountaineering accident is announced. He was the sometime leader of H.R.H. the Duke of the Abruzzi and of Sir Halford Mackinder on Ruwenzori and Mt. Kenya, respectively.

NANGA PARBAT.—We are informed by the Secretary of the Himalayan Club that Dr. W. Welzenbach, the distinguished Bavarian mountaineer, intends to attempt the ascent of this formidable peak, 26,620 ft.—where Mummery disappeared in 1895—with a party of about 6 fellow-countrymen, during the summer of 1931. The expedition will be financially assisted by the A.A.V. Munich and the D. & Œ.A.V.

Death of SIR GEORGE YOUNG, Bart.—We much regret to announce the death, at the age of 93, of a mountaineer famous in the 'sixties.[5] It is hoped to publish an obituary in the following number. Mr. Geoffrey Winthrop Young was Sir George's second son.

MONT BLANC, 'La Sentinelle' route.—The third ascent was achieved and the descent completed *via* the Col du Midi in 5 days from and to Courmayeur (July 30–August 3) by three young fellows, financially assisted by the D. & Œ.A.V.[6] Weather and conditions were bad and the risks taken appear outrageous.—From the *Reichenhaller Tagblatt.*

MATTERHORN FILM.—The press reports the total banning of Fanck's revolting travesty throughout the United Kingdom. The film, although barred at Zürich, was exhibited in Zermatt during Miss Whymper's visit until Dr. Hermann Seiler's personal intervention.

The grave of EDWARD WHYMPER.—Owing to adverse reports as to the condition of the stone, inscription, etc., reaching the Alpine Club, steps were taken to ensure the necessary repairs and Mr. C. F. Meade, who was at Chamonix, was requested to make a report. This was less unfavourable than feared, but repairs have now been completed satisfactorily.

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[5] Perhaps his best-known feat was the first ascent of the Jungfrau from the Wengern Alp, August 29, 1865, with the Rev. H. B. George, led by Christian Almer, *A.J.* 2, 210–11.

[6] A fund is set aside by the D. & Œ.A.V. for assisting promising young climbers whose finances do not permit of distant travel. But it is a far cry from the Kalkalpen to the Brenva face of Mont Blanc!

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CHANGE OF ADDRESS of C.A.F.—The Headquarters of the Club Alpin Français are now situated at 121 Boulevard Haussmann, Paris (VIII^{e}), telephone Élysées 65–47, having migrated from Rue du Bac.

'CLASSIFIED' MOUNTAINS and 'GRADED' ROUTES.—Certain mountaineers have for some years been in the habit of classifying mountains and their routes in order of danger and 'interest,' as also of expressing their contempt of those 'ungraded' peaks and routes finding no place in their personal catalogues. This habit has long been the custom in the Dolomites, where we are accustomed to hear of the last variation on a well-thumbed peak described—yearly—as 'the most difficult climb in the Alps,' and verging on or surpassing 'the limits of human achievement,' regardless of the fact that at least one route up the said peak is often accessible to an active and long-eared quadruped. This was said in the 'eighties of the Croda da Lago and Kleine Zinne; in the 'nineties of the Delagothurm and Fünffingerspitze; in the dawn of the new century of the Guglia di Brenta and Marmolata; in the period thence to 1914 of the Croz' dell' Altissimo, Tschierspitze or Campanile di Val Montanaia, and lately of the Alleghe face of the Civetta—first conquered in 1895!

The disease is, unfortunately, now spreading from the Wilder Kaiser to the Western Alps. A serious mountaineering periodical describes the N. face of the Dent d'Hérens as the last word in ice difficulties. The classification is seldom applied save when the route in question is vanquished by a climber hailing from E. of the Western Alps.

Two young scramblers speaking to a veteran world-famous for his mountaineering and still more for his literary abilities, inquired of the latter his views on the modern fashion. The reply was, 'I am too bored to be even interested.' This opinion will be shared by all those youngsters still guilty of occasional lucid intervals.

FUTILE RECKLESSNESS.—An American tripper, accompanied by a Zermatt guide, accomplished the ascent of the Matterhorn, last summer, in 1 hr. 50 min. from the Belvedere (Hörnli). They stayed 10 mins. on the top and descended in 1 hr. 5 mins.: a total of 3 hrs. 5 mins., up and down. The guide was ill for several days after, and for such crimes the ordinary death penalty is inadequate.

HEREDITARY MOUNTAINEERS.—Miss Sylvia Longstaff, aged 16, accompanied by Adolphe Rey, took her aged [*sic!*] father up and down the Italian ridge of the Matterhorn on August 24; she traversed the Lyskamm, Gnifetti to Q. Sella hut, S. ridge and *Cresta Perazzi*: 17 other expeditions from Belalp, Valtournanche, Val d'Ayas, and Gressoney.

T. G. L.

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CRESTA DI SAAS.—Such is the local name for a ridge over 5 kilometres in length between the Sonnig Pass and the Latelhorn. On it there are 10 officially named or measured points and a large number of teeth. One or two of these tops are mere walks over loose boulders, but the majority, as well as the teeth, provide excellent scrambling. The traverse can be thoroughly recommended when bigger expeditions are out of the question.

Our times including halts were: Sonnig Pass–Latelhorn, 9 hrs. (Almageler Alp–Saas-Fee, 16¾ hrs.).

E. B. B.
E. G.

MATTERHORN, N. FACE.—M. Blanchet, with Mooser and Lärjen, made an attempt on September 4. Above the Matterhorn Glacier the rocks were entirely ice-glazed. After 3½ hrs.' slow progress the retreat was sounded, Mooser having been hit three times. The party were lucky to escape with their lives.

SWISS COLOURED PRINTS.—With the completion of Volume **42**, we gratefully acknowledge our indebtedness to Mr. R. W. Lloyd for the privileged use of half a dozen of his prints, several of which were presented free to the JOURNAL by their owner. It is hoped to continue the reproduction in future numbers.

E. L. S.

A valuable GIFT.—The Rev. A. V. Valentine-Richards has been kind enough to present to the Alpine Club Library an original copy of the famous *Relation Abrégée* of H. B. de Saussure, printed 'à Genève, chez Barde, Manget et Cie., Imprimeurs-Libraires,' for which welcome gift the Alpine Club tenders its grateful thanks.

S. S.

CENTENARY OF THE R.G.S.—We publish the following address, presented by the President, Alpine Club:—

TO THE ROYAL GEOGRAPHICAL SOCIETY.—The President and Committee desire on behalf of the Alpine Club to join heartily in the chorus of congratulation which will reach the Royal Geographical Society from all quarters on attaining its centenary celebrations, and to emphasise the Club's appreciation of the congenial relationship which has always existed between the two institutions, fostered by many mutual members, by the happy coincidence of a common President, and by many mutual aims culminating in the essential and friendly co-operation in connection with the three Everest Expeditions.

The Alpine Club desires further to express its admiration of the vast record of achievement which the Society can boast in every quarter of the Globe, and its confidence in the beneficent and

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distinguished future which lies before the second century of the Royal Geographical Society.

(Sd.) CLAUDE WILSON, *President.*
(Sd.) SYDNEY SPENCER, *Hon. Secretary.*

October 21st, 1930.

Latest. The PIZ BERNINA Railway.—Owing to general protests the promoters of this scheme, *before* the poll had taken place at Pontresina, dropped the proposal and substituted an insidious alternative, a railway up PIZ MORTERATSCH, a summit that would have been tapped by the railway *en route* for Piz Bernina.

A meeting held at Pontresina on October 16 divided on the original 'Bernina' proposal, although officially dropped, and vetoed it by a huge majority. A second division was then taken on the 'Morteratsch' proposal, which was also thrown out by an overwhelming majority. It appears that the strong protest sent by telegram from the President and members, A.C., proved valuable at the meeting of the voters.

We offer our warmest congratulations to the S.A.C., and especially to the 'Bernina' and 'Rhaetia' sections, on the splendid result of their efforts.

CAUCASUS NOTES.

THE very successful Bavarian expedition of 1928 met with no hindrances from the authorities, neither have any of the following parties. In 1930, however, a large party of Viennese mountaineers and excursionists found the Balkar and Bezingi glens, leading from Naltshik into the Central Group, closed to tourist traffic. Hoping these glens would be opened eventually, they deviated into the Elbruz region.[1]

After a delay of 14 days, the party left Naltshik, on August 2, to visit the Dykhsu district. The members of the expedition consider Ailama, 14,850 ft., as the finest peak of the region that contains also the higher summits of Shkara, Dychtau and Koshtantau.[2] A camp was pitched with great difficulty on the Dykhsu Glacier at a height of 2500 m., distant two days' march from Kunnium.

Kolchaja, 3700 m., was climbed by one group, while another made the first ascent of Fytnargin, 13,789 ft., from the N. Later again two members made a very difficult ascent of a peak (*ca.* 4100 m.) between Nuamkuam and Shkara, the summit being attained by a remarkable ice ridge. Thence they effected the first traverse to Nuamkuam,

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[1] For the result of this deviation, see p. 362.

[2] See *A.J.* **26,** 96–7, and **30,** 194–6, for list of first ascents in the Caucasus.

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13,975 ft. During this time the 'Nameless Peak,' 4100 m., was also scaled over the crevassed Ailama Glacier, and Koshtantau was reached by a 2000-ft. ice gully in its S.E. arête, which was then followed over many teeth and snowy gaps to the summit, 16,680 ft. From the top a new descent was made in an E.N.E. direction, a total expedition of 3½ days.[3]

Finally, two more members traversed Khrumkoltau, 14,637 ft., the mighty neighbour of Koshtantau, in a circuit of 2 days. The weather was fine nearly throughout.

The party describe themselves as consisting 'of 6 super-expert and 4 moderate performers.'—From *Allgemeine Bergsteiger Zeitung.*

Two members of yet another Austrian expedition, Herren W. Müller and H. Tomaschek, have accomplished, on August 12–18, the traverse of Shkara, 17,038 ft., including 6 bivouacs at 4000 m.!—From *Œ.A.Z.* and *Der Bergsteiger.*

Mr. J. H. B. Bell, of the S.M.C., who accompanied several Russian tourists and mountaineers in a trip to the Caucasus, was much hindered by bad weather conditions. On July 16, starting from a camp (*ca.* 7000 ft.) on the Shaurtu Glacier, the party failed, owing to the weather, in an attack on Tiktengen,[4] 15,267 ft., from the N. On July 21 Messrs. Bell and Delaunay, the latter an excellent Russian mountaineer, having bivouacked at about 10,000 ft. on the Suanetian side of the Tuiber Pass, made the first ascent of Bashiltau,[4] 13,615 ft., by the S.W. arête—a difficult climb. Owing to doubtful weather, the same route was taken in the descent.

Messrs. H. S. Hall, L. Coolidge and W. O. Field were also much hindered by weather, but made the ascent of Elbruz, while Mr. Coolidge (of whom much will be expected in the future!) got within 600 ft. of the summit of the S. peak of Ushba, where the illness of his Swiss companion compelled the party's retreat. The members of this party suffered much from bad food and certain intolerable insects.

Mr. Field informs us that Mr. Freshfield's map[5] has been reproduced and widely circulated throughout the Caucasus by the Soviet authorities. It has—quite rightly—taken pride of place of Merzbacher's.

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[3] Herren Heilinger and Jascynski, no date.

[4] See *The Exploration of the Caucasus*, ii, 249. Tiktengen and Bashiltau were first climbed by Messrs. Rolleston and Longstaff in 1903, *A.J.* **21**, 572.

[5] *The Exploration of the Caucasus*, ii.

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NEW ZEALAND NOTES.

THE 1929–30 season at the Hermitage rivalled its predecessor, both in the scarcity of good climbing days and in the inadequacy of the guiding staff to satisfy the demands of visiting climbers. Despite these drawbacks several ascents were made of the favourite peaks. MT. HAMILTON was climbed five times, ELIE DE BEAUMONT and the MINARETS twice, and ascents were also made of MALTE BRUN, FOOTSTOOL, STURDEE, ANZACS and HOCHSTETTER DOME. The low peak of MT. COOK was conquered in February by Miss Familton with Williams and Alack. The high peak fell only once, to Messrs. Parker and Shand with Williams and Bowie on March 14. A courageous attempt in January by Messrs. Hall with Hilgendorf was repulsed by the vile condition of the summit rocks 800 ft. from the top. The first ascent of GLACIER PEAK from the E. was made by Mr. Porter and Williams on December 21, twenty-three years after the only previous ascent from the W. by Canon H. E. Newton, Dr. Teichelmann and Alec Graham.

The material for the new Malte Brun hut, which was deposited last winter by the Byrd Expedition dogs half-way up the Tasman Glacier, is now being sledged up by man-power to the edge of the moraine below the site, whence it will be 'winched' up the last 400 ft. The motor road to the Ball hut is nearing completion.

There has been increased activity in other regions, notably round Arthur's Pass, where the recently completed Carrington hut attracts the youth of Christchurch, and still more in the mountains of Otago. MT. ASPIRING, despite its inaccessibility, was climbed three times in one season; its previous history relates only three ascents in twenty years. This is a district of immense possibilities with many lovely virgin peaks and passes, which in the next few years will be wooed and won by the keen mountaineers of this province.

Mr. Harper writes:

'I am having another "go" at the Alpine guide question to try and get the Government to bring in regulations requiring some test of qualification and to institute licences for guides. The men themselves want it, and as I am backed by the majority, if not every climber of repute, I think this time we may bring it to a head. I have got the two Grahams, our best guides, on my side, so we ought to win.

'For years past I have advocated a large National Park covering our main Western Alpine country. Many years ago all the district round the Tasman was set aside as a National Park under the Tourist Department. They leased it to one of the hotel companies, which has a monopoly and controls all huts, and its tariff is so high that the average poor man cannot go in—for the company objects to his going in and camping.

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'On the western side, however, we have had reserves made under a different department, and these are now a real National Park in which we can camp, or, if we like, can work it from hotels just outside the reserve. The result is that on the west we have practically secured 187,620 acres, an area of some 30 miles north to south, and covering the country from the base of the ranges back to the Divide.

'Further north there is a large area reserved at Arthur's Pass, the headwaters of the Waimakariri River, containing a big group of secondary snow peaks and several sizeable ice fields. Between this and the big southern reserve is a stretch of some 60–70 miles of snow ranges and several very fine glaciers at the heads of the Rakaia, Wanganui, Wataroa and other rivers; and my object now is to continue to "peg away" until I can get the whole into one National Park. But we have done pretty well in getting this last block, 125,000 acres, reserved in South Westland, and must let it rest at that for a time.

'Our Central Alps reserve now takes in Godley and Classen Glaciers (Tekapo River), all those round Mt. Cook and the corresponding Western district, making in all practically one block of 341,430 acres, which includes no less than nineteen large glaciers and sixteen peaks over 10,000 ft., and probably upwards of a hundred and fifty good peaks above the snow-line in addition.

'As Amery in his Canadian paper in the last "A.J." referred to our New Zealand policy of making reserves, you may think it worth while extracting a "Note" from the above for the next.'

ACCIDENTS IN 1930.

FOLLOWING a summer almost unprecedented as regards bad weather —there were but a few fine days at the end of August and beginning of September—the list of accidents is again terribly high. More than 120 persons are reported as having perished during the summer and autumn. But in the frequented resorts the weather, bad or indifferent, has little effect in preventing numbers of inexperienced or irresponsible persons from starting on expeditions. Many appear to enjoy climbing in rain or snow, although sooner or later liable to pay the extreme penalty. So numerous were the accidents that reports appear in the press of meetings of the Continental Clubs to consider preventive steps, while their official journals publish leading and extremely pessimistic articles.

The Eastern Alps, as usual, have provided the greater number of catastrophes, many of which have been due to exposure. When such accidents occur, as, for instance, in the Wilder Kaiser, of 7000 ft. and under, where a party of four persons is stated to have perished in one day from cold, it does not require a vivid imagination to picture the kind of weather prevailing when a start was made.

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In the course of some six weeks spent in the said Eastern Alps during the last summer, we can vouch that not 5 per cent. of the visitors to huts or mountains are even half equipped for mountaineering. Men and women appear to consider that a pair of crampons provides all the special equipment—or clothing—required. Leather shorts, stockings without feet, *shoes*, braces and zephyrs, sometimes not even the latter, are considered ample for a snow peak or glacier pass, while thin canvas knickers and coat more than suffice for a rock peak. Add to this a Fulpmes constructed axe of preposterous length, shape and balance, and we find the complete and heaven-born mountaineer.

The accidents of 1930 are far too numerous to classify, and we must be content with giving the details of those few from which some lessons may be learned. None of our own members have lost their lives, but the sad tragedy of l'Évêque has affected deeply the person and family of one of our best-known mountaineers. Great loss of life has occurred, among other peaks, on the Pointe de Méan Martin, Le Râteau, Dent Parrachée, Mont Blanc, Engelhörner (in which Herr H. Winterberger and another first-rate climber perished), and in the Ortler, Zillerthal, Kaisergebirge, and Tauern districts.

Two Viennese have disappeared mysteriously on the Zinal-Rothhorn. They had stated their intention of attempting the great and partly overhanging E. face. Their other plans included the N. face of the Matterhorn, E. face of Monte Rosa, N. face of Dent d'Hérens and S. face of the Täschhorn. Nothing has been heard of them since July 26, and not the slightest trace has been found. According to the *Allgemeine Bergsteiger Zeitung*, the doctrine of one of these tourists was that no party should recoil before impossibilities [*sic*].

The Accident on Les Droites.

Herren Hans and Karl Schmiedl, two brothers of Austrian nationality, were descending from the E. peak when they fell and were killed. It was evident that the fall took place while they were in the act of lowering their sack on the rope. The latter was unbroken and had stopped their fall of round about 1000 ft., by hitching itself over a small projection of rock. One watch had stopped at 8.15. As they were descending, it was presumably 8.15 in the evening. The victims were wearing crampons, of course highly dangerous in soft snow.

We publish the translation of some letters which have passed between Mr. C. F. Meade and the Presidents of the C.A.F. and Chamonix Section :—

To the President, Chamonix Section, C.A.F.

I have the honour to submit a report on the death of two Austrians killed on Les Droites under circumstances tending to raise difficult

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but urgent questions as to the future and even the honour of mountaineering as regards the organization of rescue parties in the Alps—

Wednesday, July 30 [1930]. The Austrians left the Couvercle for Les Droites.

Thursday, July 31. With my guide, Pierre Blanc, of Bonneval-sur-Arc, I arrived at the Couvercle. The hut-keeper, M. Joseph Ravanel, informed us that the two Austrians had not returned from their expedition, and that he had that same evening, July 31, sent word to Chamonix by an acquaintance, a Russian, named M. Williamov. Later, on the same evening, M. Lagarde and a friend arrived: they had traversed Les Droites from the Argentière Glacier. They stated that they had found two ice-axes on the S. arête of the E. peak of Les Droites, and that the owners of the said axes had evidently been descending the E. peak. A French gentleman, whose name is unknown to me, stated that he intended to traverse Les Droites from W. to E. with the guide Etienne Payot and a porter and would look for tracks. Blanc and I decided to accompany them on the search.

Friday, August 1. On this morning M. Ravanel asked M. Lagarde, who was proceeding to Chamonix, to make a report of the occurrence to that Section. This was the second report sent to Chamonix. Our two parties had meanwhile started for Les Droites and reached the Col de l'Aiguille Verte. On arrival at the Col I dropped my ice-axe and was consequently obliged to turn back with Blanc. It was already obvious that the Austrians had not made the long traverse passing over the W. peak, but that they had doubtless taken the ordinary route to the E. peak. Had I known that the spot where the axes were found was so far from the W. arête, I should have recommended the ascent of the E. peak by the said ordinary route. That same evening Herr Paul Schermann, a friend of the Austrians, arrived at the Couvercle.

Saturday, August 2. As there was no news of any rescue party from Chamonix, two search parties were organized as follows: *First* party, my guide, Pierre Blanc of Bonneval-sur-Arc, myself and a porter. Our duty was to search the W. slope of the S. arête of Les Droites. *Second* party, the guide Alphonse Blanc (kindly lent by M. Boucher, who abandoned his expedition in consequence), Herr Paul Schermann, and a young porter, Emile Folliguet. This party intended to search the E. slope of the S. arête of Les Droites.

The two porters were allowed to accompany us by permission of the party of twenty-four Swiss who had come up to transport the bodies of the two climbers killed on the Aiguille Ravanel.

The first party reached the bergschrund at the base of the S. arête in about an hour. The porter was sent back from this spot; he had no crampons, and would have been a source of danger higher up on the steep slopes.[1] Having searched the entire W. slope

[1] Mr. Meade informs us that he was quite useless as a mountaineer—in fact, a source of much danger.—*Editor.*

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of the arête, Blanc and I went up to the crest, where we found Alphonse Blanc. His search on the other slope had been successful. He had left his two companions by the bodies of the Austrians (some 150 m. lower than our meeting-place on the S. arête).

Thanks to the well-known skill of the Blancs, father and son, the transport down the vertical rocks was as successful as possible, and the bodies were eventually brought to the level surface of the glacier. That night the weather became bad and snow fell very low down.

The special significance of this disaster consists, to my mind, in the fact that the two climbers, starting on Wednesday, remained out, without any help, until Saturday, although it was already obvious on the Thursday evening that an accident had occurred. In spite of M. Ravanel's prompt warning to Chamonix, no attempt was made to call on rescue parties. Had death come slowly, the sufferings of the two mountaineers during this long delay would have been terrible.

In conclusion, as a member of the C.A.F. of twenty years' standing, I venture to inquire what organization exists in the Alps for the formation of rescue parties? It should be possible for the Clubs of the several nations to constitute some financial scheme to prevent mountaineers suffering the worst tortures of a slow and dreadful death, and thus put an end to a situation which is simply dishonourable to mountaineering in general.

I am of the opinion that the guides would welcome such a scheme.

(Signed) C. F. MEADE.

August 13, 1930.

(Copy to the President of the C.A.F.)

The President, Chamonix Section, C.A.F., to Mr. C. F. Meade.

For many years the C.A.F., both at the General Meetings and sectional assemblies, has endeavoured to find a *practical* solution for the organization of rescue parties. Only at *Grenoble*, where good mountaineers are *numerous*, has an organization, since proved satisfactory, been brought about.

At Chamonix the rescue organization is in the hands of the Municipality and the Association of Guides.

This association, formed fifty years before the foundation of the C.A.F., is completely independent, and has always refused to receive any instructions from the Club Alpin.

Moreover, mountaineers, members of the C.A.F., coming to Chamonix are only birds of passage on their holidays. They rarely furnish us with their addresses. It would be quite impossible to collect them so as to form a body capable of acting together, especially in our district, where first-class mountaineers would be needed.

You will understand that such conditions are impossible of solution.

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Moreover, except on the very rare occasions when friends of the victims have formed a rescue party—without, I may add, notifying our section of the C.A.F.—the said parties were organized by the Guides' Association, and the results have been satisfactory to all.

As soon as our hut-keeper's letter, brought without delay by our colleague Oulianoff [*sic*], had reached us, I informed the Association of Guides, which, following the ritual, took the necessary action as soon as disengaged guides, capable of salvage operations, could be brought together.

Without collecting a considerable fund, it would be impossible to hold present and ready in Alpine centres parties of guides or mountaineers sufficiently trained to sally forth and bring help at the first alarm, like the Fire Brigade of Paris.

The question will again be brought up at the meeting of the C.A.F., but the most competent members of our section, who have many times studied it, are much afraid that no practical solution can be found.

(Signed) BERNARDET,
President, Chamonix Section, C.A.F.

August 20, 1930.

Mr. C. F. Meade to the Acting President, C.A.F., Comité Central.

I beg to forward to you a letter addressed by me to the President, Chamonix Section, C.A.F., together with the reply, which he has authorized me to transmit to you. I would request you to read this correspondence dealing with the question of rescue parties when mountaineering accidents occur.

Monsieur Bernardet states categorically that search parties have acted to the general satisfaction; this statement is in contradiction with the facts as described by me in my letter to him, now enclosed. As I have pointed out, the news of the accident to the two Austrians who had started on the Wednesday, was sent to Chamonix on the Thursday evening; no rescue party had arrived from Chamonix, nor had any news from there reached us prior to the finding of the bodies by ourselves on the Saturday.

As to the statement that a rescue party had accomplished everything needful, I can simply declare that everything needful had been accomplished before its arrival, since the said party was far too late both for discovering whether the victims were dead or for the transport of the bodies out of the zone of difficulties.

As to the possible remedies mentioned by the President, I venture to state that an understanding between the C.A.F. and the Guides' Association is perfectly feasible. (I presume that the concern of the Municipality, mentioned in the President's letter, is very restrained in the matter, as a Municipality by itself is unable to organize rescue parties.) If the C.A.F. were to feel obliged to provide all the necessary funds required for the payment of good guides

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as well as porters to accompany the said parties, and if the Club were to leave all organization details for such parties in the hands of the Association without assuming more than an indirect control, I venture to hope that, under such conditions, a practical solution could easily be realized.

I grant that such a solution would involve, as the President points out, a question of possibly considerable expense, but is it too much to hope that the members of the C.A.F. would consent to a slight diminution of the rebate which they now enjoy in the Club huts ? This would be nothing but a kind of insurance against the costs of possible accidents occurring to climbers whose relations find themselves unable to provide the necessary sums.

I venture to hope that such a solution is feasible. The necessary good-will has never been lacked by the guides, but funds and organization have been wanting hitherto.

Although a foreigner, I depend on the good-will of my comrades of the C.A.F. not to suspect me of interfering in matters of no concern to me ; the question of rescue parties in the mountains is simply one of common humanity.

I might add that it never occurred to me as practicable for mountaineering visitors to organize rescue parties. It is on the guides that we must depend, and their devotion has never been found wanting yet. It should be noted that the alarm from the Couvercle was not transmitted to the Bureau des Guides but to the President of the Section, whose duty it is to forward the information to the Guides' Bureau, where, according to the statement of the said President, the latter has no authority whatever. A direct appeal would save time, surely ?

Finally, and in conclusion, let me state that my aim has been to maintain that the failure of the responsible authorities in Chamonix to answer the distress calls from the Couvercle proves a want of all organization capable of present remedy, and that if there were no guides available in Chamonix at the time of the accident, the hut-keeper and guides at the Couvercle should have been called on themselves to do their utmost.

Naturally, I am not writing now of the transport of the bodies—of those already known to be dead—but I am thinking of the necessary steps that should have been taken when there was a chance of saving life or at least of lessening suffering.

(Signed) C. F. MEADE.

August 23, 1930.

[These letters, and especially the reply of the President of the Chamonix Section, prove clearly that anarchy reigns in Chamonix. The railway accident at the Montenvers in 1927, followed by the tragedies of the Petit Dru [2] in 1928, had already drawn attention

[2] *A.J.* **40,** 420–3.

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to the condition of affairs. In the latter case it is notorious that, rightly or wrongly, little was done by the professional parties in the way of a rescue until the return of Armand Charlet to Chamonix from an expedition. Everything, practically, achieved up to that moment was due to the unselfish devotion of some amateur parties. Moreover, no stretchers were available to transport the railway victims of 1927, and the same was the case in the Dru accidents of the following year.

Many of our members belong also to the C.A.F., and, in our opinion, the remedy appears to lie in the *compulsory* insurance[3] against accidents of all members of Alpine Societies. This is now done in the S.A.C., when for the yearly sum of 5 francs 50 cents. —in some sections less—members are insured for 10,000 francs, or £400.

Other matters to be remedied are the extortionate tariffs demanded for the use of search parties, and especially the exorbitant charge for provisions. This abuse prevails in the Swiss as well as in the French Alps. Serving with a search party—'in the interests of common humanity'—should not be considered as a means of earning money; the out-of-pocket expenses alone should be claimed.[4]

Up to the moment of going to press Mr. Meade has received nothing but an acknowledgment of his letter of August 23.—*Editor*, 'A.J.']

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[3] We understand that an insurance proposal has been rejected recently by the C.A.F.

[4] 'Pour le transport des corps du lieu de l'accident au refuge du Couvercle et de là au Montenvers, 12 guides et frais de chemin: 4489 francs, 30 cents.'

Such is the account, sent to the relatives, by the Guide Chef of Chamonix for bringing down the bodies of the victims of the Les Droites accident of July 30. We make no comment on the sum demanded, but the wording of the *note* is entirely fallacious. 'Le lieu de l'accident' is nowhere near the scene of the said accident, which occurred thousands of feet above; the 'lieu' mentioned is a short 2 hours above the Couvercle on the nearly level surface of the Talèfre Glacier, from which spot there is not the slightest difficulty of transport. The dangers and difficulties were confined to the search for and lowering of the bodies from the *real* 'lieu de l'accident' to the said glacier's surface. All this was accomplished by the unaided volunteer search parties of Messrs. Meade and Schermann, led by the Blancs, father and son. For their services the Blancs have not received even the odd centimes quaintly claimed in the *note*. We are aware that Pierre and Alphonse Blanc are the last guides to request or require remuneration for their disinterested services, but the facts should be published as indicating the spirit in which salvage parties are officially conducted in Chamonix.

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The Accident on the Aiguille Ravanel.

Two young Genevese, MM. Marcel Briffod and Robert Bouvier, were, on July 31, descending *en rappel* from the peak, while a party led by Arthur Ravanel, having crossed over from Les Courtes, was ascending the Aiguille. Ravanel suddenly perceived the two Swiss flying through the air close to him; the rope-ring fixed by them had broken. It was a very narrow escape for the guided party and also for others who were on the mountain. The Swiss were of course killed instantaneously.

We are informed that the young pair were brilliant exponents of what is known as *le système genevois* of descending *en rappel*. This consists, every time a *rappel* is formed, of gathering in some extra yards of the spare rope, thus enabling the climber to let himself fall sheer down the first yard or two of the *rappel*.[5] The 'terrific speed' of these unfortunate youths made a great impression on Ravanel and Georges Charlet, also an eye-witness of this senseless tragedy.

The bodies were recovered by a party of twenty-four Swiss, who came for the purpose. Local professional assistance was not called upon owing to the prohibitive charges made on a previous and similar occasion.

The Accident on the Col des Droites.

MM. W. Brunschwyler and O. C. Schaub, aged respectively 29 and 22 years, together with another party or parties, having accomplished the ascent of Les Droites on August 17, were descending from the col of that name at about 09.00 hrs., when they trod an avalanche loose, and Schaub was carried away. Brunschwyler, planting his axe in the snow and looping the rope over it, held on to his companion till his axe broke and he also was carried away. Schaub was swept down some 2000 ft., emerging from the avalanche, which was about 300 ft. wide where it had broken off above the party, still alive and not seriously injured. He searched for his companion for eight hours, but found no trace of him. A search party on the 19th met with no better luck, and it was not until some days later that an Alsatian dog with another party found the body buried very slightly in the remains of the avalanche.

Owing to the bad weather all steep snow-slopes were in a most dangerous state at the date of the accident. The avalanche was of a 'winter' nature, so we are informed.

A party of two, MM. M. Azéma and J. Rey, who, on July 22 and in bad weather, had climbed the Aiguille de Bionnassay by the *N.* face (!), were overtaken by a storm on the Dôme du Goûter, where Azéma disappeared and the other was found frost-bitten and half dead.

[5] It was the resulting jerk that broke the ring.

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The Accident on l'Évêque.

[At our request, Mr. Irving, the leader of the party, has furnished us with the following account of the tragedy.—*Editor*, 'A.J.']

We left Arolla soon after 4 A.M. on August 21. We were a party of eight, myself, my sons Francis (aged 20) and Robert (not quite 17), my daughter Mary (19), John Hurst (just leaving Cambridge), Gerald Palmer, his sister Miss Elizabeth Palmer, and Vincent O'Connor, who was a master at Eton.

As to the competence of the party, I myself have had a great deal of experience as leader of guideless parties since 1903. My two sons have climbed with me in the Alps and in Wales since 1926, when they both went up Mt. Collon. Miss Palmer has also climbed with us since then. My daughter Mary was in her third Alpine season. Mr. Gerald Palmer has only been able to join us for short spells, but his ascents include the Bietschhorn, Aletschhorn and Finsteraarhorn, the last two in an icy wind. Mr. Hurst had a full climbing season with us at Belalp in 1927, and has done a good deal of climbing with myself and others in Wales; he is a very good, and with me certainly a very safe, climber. Mr. O'Connor joined our party last year at Fafleralp, where his expeditions included the Bietschhorn, Lauterbrunnen Breithorn, and Tellispitzen. He was the only member of our parties who had not begun his climbing with me. He had done some climbs at Chamonix with one of the Ravanels, and had made ascents in Wales and Corsica at Easter with experienced men. He was well built and athletic, with a good balance. I had every reason to regard him as a strong member of the party, and I am quite sure he was.

With the exception of Mr. Palmer, who came out on August 12, and Robert, who came out on August 6, all the party had been climbing since August 1. The previous Monday had been spent in a glorious day on the Douves Blanches and Tsa (left Arolla at 6.30 A.M., back at 6.30 P.M., with long halts). Tuesday was a completely slack day, Wednesday a picnic expedition to the Arolla Glacier.

We made a long halt at the upper Arolla Glacier, and went round the foot of the E. face of l'Évêque, to the small col (north of the actual Col de l'Évêque), where the S.W. ridge begins. It was then nearly 10 o'clock, the snow that had fallen some days before being still deep enough to make the going heavy in places.

We were on two ropes: myself, Robert, Miss Palmer and Francis in that order on an 80-ft. Frost rope; O'Connor, Mary Irving, Hurst and Palmer in that order on my 100-ft. Frost rope, bought last April and used a few times in Corsica.

There was a short but steepish bit of ice to cut up before we reached the easy lower rocks of the ridge. These were followed to a great step in the ridge. We tried the edge overhanging the S. face, but did not persist in our attempt, not knowing what might

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be beyond an obviously severe bit. I traversed away to the left and cut part way across some steep snow to look at the rocks beyond, but they were obviously very steep and difficult, and small icicles came down to remind us of the possibility of worse things. We went back and tried the steep face under which we had traversed—the S.W. face it would be. It was steep, but the rock was good. The second rope waited some time before following us, for we remained almost directly above them for a considerable distance. Bearing to our right, we rejoined the ridge overhanging the S. face, and followed it to the summit. A flake of rock, very steep but sound, was difficult. My rope reached the top of the mountain at 1.30. Both Robert and Miss Palmer said they had greatly feared I was going to give it up. All were fresh and very hungry. The second rope arrived in splendid spirits at 2.25 and made an excellent meal.

All expressed a wish to return by the ordinary route, down the N.E. face. It was clearly a far quicker route, for I saw that below a small col less than 50 yards down to the north there was enough snow on the slopes to make the descent easy.

By joining our two ropes, making 180 ft., it seemed to me that at least one man would be on the small col (which was broad, with rocks standing up on its W. side) before the last man had left the summit rocks. Accordingly, I told Palmer, Hurst and Mary to shorten the intervals between them, so as to leave a convenient amount of rope free at the end which Francis was to tie on.

There was still a good deal of snow on the ridge; it had fallen on the night of the preceding Friday, and was therefore more than five days old. This short bit of ridge is sharp. On the E. was very steep snow, on the W. was a short vertical wall of snow and then very steep, slabby rocks which fell for 100 ft. or so to a still steeper drop, far below which we could just see a slope of snow and another drop, apparently to the bergschrund at the foot of the precipice, which must be at least 1200 ft. in all, if not more.

On beginning to cut steps in the edge, but slightly on the E. side of the ridge, I felt at once that there were remains of old steps. These cleared out well and gave excellent foothold. The axe shaft could also be driven in some distance in the snow on the E. face, enough to give good steadying hold, if not more. Besides clearing the large steps in the crest, I made footholds for the right foot (facing inwards), in the snow wall on the W., where the snow was good, so that the distance moved at each step was small. The lower part of the ridge seemed to me steeper than the upper, but I do not think the angle exceeded 40°.

Myself, Robert and Miss Palmer had all reached the col; Francis was above us on the ridge separated from us by a few steps in the snow wall. No one saw the movement that caused the accident; from where we were the curve of the ridge made it difficult, if not impossible. O'Connor must have fallen almost directly after leaving

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the summit rocks. He fell on the W. side down the short snow wall and the steep slabs below, followed by Mary; Hurst and Palmer were dragged from their steps and began falling down the slabs. I feared the whole party were going, and was in the act of passing the rope round a big rock in the col when I saw that two of those falling had been stopped and that Francis had not fallen from the ridge. But two continued to fall, and I realized the rope must have broken.[6] Almost at once all hope of their being saved vanished. We saw them still falling on the snow far below and knew they had perished. They made no sound and must have lost consciousness at once.

Hurst and Palmer rejoined us on the col almost at once; the rope between Palmer and Francis had jammed in the snow of the ridge, and they must have swung towards us on the col in their fall. Hurst said the rope had broken between himself and Mary; as he felt no pull, it must have caught on a rock, for the strain on him would have been tremendous with the impulsion of O'Connor's fall and in a lesser degree of Mary's.

It will be noticed that the rope that broke was part of the same 100-ft. rope that held up Palmer and Hurst. It took Francis some time with an axe to free the rope in front of him. By throwing his weight on the opposite slope he may have prevented a still worse catastrophe.

We continued the descent in the same order. In places the snow was thin and an occasional step in the ice had to be cut, but it was sometimes deep enough to drive in the axe up to the head and belay the rope. No one broke a step, and we must have reached the almost level glacier in less than an hour. My two sons went on with Miss Palmer to leave some things at the Jenkins hut [7] in case we others were late: they reached Arolla about 7 o'clock.

Palmer, Hurst and I turned southwards under the N.W. face of l'Évêque. In half an hour we had arrived under the part of the precipice where the accident happened. We saw at once where they had fallen. Mary's body was lying on the snow a little below the bergschrund, and close by, on the back wall of the schrund, we saw unmistakable evidence of where O'Connor had disappeared. In a great deal of its length the bergschrund was not open, but just here it was.

We buried Mary there.

Those who do not know what these two were to one another, and what mountains meant to them, and who have not seen, as I have, in the shop-windows of an Alpine centre the sort of publicity that may accompany the recovery of bodies, may think it strange that we did what we did. But they can imagine the simplicity and the reverence with which that place was consecrated.

We removed as far as we could any traces that would indicate the

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[6] I think the rope *broke*; it was certainly not a clean cut.

[7] On the Col des Vignettes.—*Editor.*

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spot and returned by the Jenkins hut to Arolla, which we reached just after 8 p.m.

The explanation of the accident must be merely guesswork. A movement of over-confidence or a movement of haste, of looking to the safety of others and forgetting the need of his own; at any rate a moment of relaxation of attention to his own actions such as came to Émile Rey on the comparatively easy rocks below the Dent du Géant, or such as might cause the death of a motorist any day of his life.

With the exception of O'Connor, whom I did not, and perhaps could not see, owing to the curve of the ridge, all came down the ridge facing inwards. It may be amateurish [8] and it is not a possible method for a guide who has to watch an employer every moment, but it makes for individual security. I mention the matter because O'Connor had once told a member of our party that a guide had instructed him to descend ice facing outwards. To the best of my remembrance, he generally did as we did, and I think it most unlikely he attempted to do otherwise on this occasion. We had not brought crampons with us; and considering the amount of snow on the ice, I doubt whether they would have added anything at all to our security.

A moment of giddiness *might* have caused a slip, but that again is extremely improbable and entirely conjectural.

In view of an article which appeared on September 23 in the *Gazette de Lausanne* and other Swiss papers, I feel obliged to add something further to what I have already written.

On returning to Arolla I at once told M. Anzévui, director of the Hôtel Mt. Collon, what had happened and where the bodies lay, and that search was not only unnecessary, but would be painful to me. He behaved like the true friend he is and fully understood my wishes. At his request I made a report in French and signed it. This report was sent to the tribunal at Sion, and a copy was sent to the *Nouvelliste Valaisan*, which published it on August 26; the account which appeared in *The Times* was mainly a translation of this report. The peculiarly private nature of Mary's burial I could not tell and I saw no reason to do so.

The place where the bodies lay is some distance from the route to any pass or peak, the bodies were completely out of sight and at an unknown depth to any but the most persistent and morbid curiosity; to us, as we knelt on the edge of the schrund, they were quite invisible. We never saw O'Connor's body, and my daughter's body was, as far as we knew, as irrecoverable as his. If I had known they had actually been arrested a few metres below the surface, I should have had myself lowered into the schrund to

[8] The best iceman we have ever seen—Josef Pollinger—invariably adopts this procedure on steep snow or ice, and *insists* on his party doing likewise (*A.J.* **37**, 119).—*Editor.*

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displace them the few feet necessary (as I heard from M. Anzévui) to make them absolutely irrecoverable. I do not cease to blame myself for not having done this. But in such moments a man must be more than human to think of the persistence of sensation-hunters, and perhaps I might have been afraid to risk the loss of what, even as Mary's body lay on the snow, had been wonderfully kept for us, the memory of her face only in the full beauty of life.

I was aware of the responsibility I was taking in leaving O'Connor's body there, and it was an immense relief to find that what I had done had the most grateful and sympathetic approval of his parents.

I went down to Evolena on August 23. On the following evening I had a long interview with the 'brigadier,' M. Favre, who came up from Sion. He had my report with him and asked me several questions in regard to it. He expressed some surprise at my wish that no attempt should be made to recover the bodies, but he made no suggestion whatever that such an attempt must be made if they were recoverable. I also saw the President of the Commune of Evolena, who acts as registrar, and obtained from him copies of the 'actes de décès.' On August 26 a telephone message came from Arolla that some guide had found the bodies 4 metres below the surface of the schrund and inquiring as to my wishes. I said that I wished them to remain undisturbed, a wish that was already well known. The reply, as far as I remember, was 'Bien.' I left Evolena on August 27, and Switzerland on the following day, assured that they could rest in peace.

The first intimation I had to the contrary was a midnight press inquiry in England, on Saturday, August 30, to ask my views on a statement which appeared next morning in the papers that the bodies had been recovered and buried at Evolena.

On September 2 we heard from Mr. Martin, the chaplain at Arolla, that he had officiated at the funeral, and he gave us some details as to the graves.

I wrote to M. Anzévui for some information, and he replied expressing his sympathy and saying that the Swiss authorities had sent 20 guides to recover the bodies on August 29, and had found them as stated above and close to a point where they would have been irrecoverable. It was clear to me that nothing would have been easier than to carry out my wishes, but that those who found the bodies had other motives.

No intimation whatever as to the intention or the result of the finding of the bodies reached me from the Swiss authorities. On September 17 I wrote to the President of the Commune at Evolena, to inquire as to the funeral expenses at Evolena, and the possibility of purchasing the grave. I have just had a letter from him answering my inquiries, expressing his sympathy, and explaining that any part he had taken had been in obedience to a higher authority.

Up to this day, September 28, I have received no communication of any sort from the authority responsible for the arbitrary measures taken.

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I need not mention the libellous statements made in the article in the *Gazette de Lausanne* of September 23, and which was brought to my notice two days ago. Anyone who has read them will be able to form his opinion of them from the facts given above. It is a task I would have gladly avoided to have to make this addition to my account of the accident, but the nature of the article made it necessary to remove the stigma such a widely circulated slander had laid upon the Club through a member.

R. L. G. IRVING.

[We very deeply sympathize with Mr. Irving and the relatives of the victims of this tragic event. In all the circumstances we think it best to leave Mr. Irving's full narrative to tell its sad story without any further comment.—*Editor*, 'A.J.']

The Accident on Elbruz.

Die Allgemeine Bergsteiger Zeitung (of Vienna), August 15, 1930, is responsible for the following confused and almost incredible story of the fatal misadventures of a large party of Austrian tourists on Elbruz in the course of last summer. No dates are supplied with the deplorable narrative here reprinted. In many of its details it is unintelligible, and we must hope, therefore, largely inaccurate. Elbruz is, for *mountaineers*, an easy mountain, but the great volcano, with its vast glacier fields, can never be a suitable or safe playground to the 'Proletariat Excursionists' for whom the local government has provided shelters.[9]

Several parties of Viennese reached Tegeneklis [*sic*], at the foot of the mountain, by car, whence they attained the hut situated at 4400 m. Two parties started thence for the ascent, of which the first (Herren Schott, Kolb, Sperlich, Fuchs and Heilinger) bivouacked at 5100 m. On the following day four members of this party attained the (5633 m.) summit at 08.30. Kolb made the final ascent alone, and rather later than the remainder of the party, meeting them on their descent about 15 minutes below the top. The weather being perfect, no one paid much attention to Kolb, beyond fixing a subsequent rendezvous with him. Fuchs appears to have been with Kolb, but 'this part of the story is very confused.' At all events, Fuchs seems to have tripped up over his crampons and pitched head foremost over a steep snow-slope. He appears to have broken his glasses and, having incurred grave injuries, lost all sense of direction. In any case he died there.[10]

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[9] See Count di Vallepiana's paper, p. 280.

[10] A later report (*loc. cit.*, August 29) states that Fuchs, 'somewhat clumsily,' stuck a spike of his crampons through his wind-proof overalls, pitching on his head on to some ice blocks and being killed on the spot.

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The weather, meanwhile, had become very bad. Kolb, descending from the summit, lost his way in storm and mist. Knowing nothing of the fatal fall ' of his companion,' he hurried down ' to lower altitudes trusting to luck '—as the compass ' had remained in the rucksack left 1000 ft. below the summit.' For two entire days Kolb wandered about ' over great névés and lava,' eventually ' attaining a valley,' from which a five days' journey was necessary before joining up with the remainder of the party.

These others, ' after the fatal fall of Fuchs,' and after ' waiting uselessly on the saddle at about 5300 m. for his return from the summit,' were, after giving signals and calls, compelled to descend owing to the oncoming storm. They were under the impression that Kolb had passed them on the saddle. Two members of the *second* party, Krenek and Kakuska, started with Schott for a second high bivouac in order to search for Kolb on the following day. After a useless search they were so overcome by cold and altitude that they were compelled to descend, ' bringing with them the body of their fallen companion ' [Fuchs].

The Viennese party was well looked after in the hut by two foreign guides and some Moscow ' mountaineers.' The body of Fuchs was buried near the Kongosor hut (3200 m.).

' The members of the expedition have continued the journey in order to resume their mountaineering activities in the previously determined-on district.'

The Accident on Kangchenjunga (1929).

(Reprinted by courtesy of the Editor of the 'A.A.J.')

' One day towards the end of winter there walked into my office a tall, clear-eyed, square-jawed, young man. He was from Virginia. He had lived in New York City for years working in one of those great down-town beehives, but rarely able to escape from Manhattan Island to enjoy the beauties of our environs. Five years ago he had conceived the desire to climb Kangchenjunga. He kept this desire and read and studied and planned the trip. Few details escaped his attention—food, clothing, footwear, mountaineering equipment had all been carefully purchased. He sailed from New York alone and expects to reach the summit of Kangchenjunga and be back by August (1929). He has never been on snow or ice other than that of our streets. Nor has he ever been up a hill of more than 3000 ft. What nicer experiment in the problem: Can book-knowledge suffice where actual experience is usually held to be so necessary ? Will he get there ? I shall not forget the eye nor the jaw nor the simple faith in himself. He has my wish for success.'

At about the time of the publication of the foregoing note,[11]

[11] *Mountain Magazine*, vol. vii, No. 4, July 1929.

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word was received from India that Mr. Farmer had not returned. Of course we could not regard this outcome as a complete answer to the hypothetical question raised in our first paragraph. It is but one more bit of evidence to add to that which accumulates year by year in every line of endeavour—that 'experience is the best teacher.'

When he arrived in India, Mr. Farmer proceeded to Darjeeling and there met Mr. G. W. Wood-Johnson, a climber of experience in the Himalayas. He and others helped Farmer to secure excellent porters—several of them being well-known men of experience and veterans of Mount Everest expeditions.

The story of what befell Mr. Farmer is best told by the testimony of the porters before the Indian police, which follows:

Statement of Lobsang, son of Dawa, Tibetan, of Patual-Sho, Lhasa; age thirty-three, of Bhuti Bosti.

'Mr. Wood-Johnson, Assistant Manager of Geille T. E., went to Guicha La last year in October, and I went with him as his headman. There were twenty coolies. I was with General Bruce, of the Mount Everest Expedition, on two occasions, and it was for this reason Mr. Wood-Johnson took me with him. He had a successful trip. In April, on a Wednesday, I went to Geille T. E. on the call of Mr. Wood-Johnson, who told me that Mr. Farmer was going to Jongri for one month and six days, *i.e.* nine days each way to Jongri and back, and he would halt eighteen days at Jongri and take photos. He would be going up to Kang La. On my question I was told that Mr. Farmer was not going to do mountain climbing, and being such a light job, he arranged to give us Rs. 1-4-0 per day for me, and to Sonam Tangay and Nima Tundrup and seven other coolies, annas 12 per day. He also promised that rations would be provided from Yok-San onwards.

'On May 6, 1929, we started from Jongri at 7 A.M., taking with us five days' rations for six of us, leaving our reserve ration at Jongri with a yak-herd. We halted at Aluk-thang. On May 7 we arrived at Chematang at 4 P.M. Mr. Farmer alone climbed Guicha La. He told us to stay at camp. At nightfall I sent Nima Tundrup with a lantern, and Mr. Farmer returned at about 7.30 P.M. There was a little snow on the way to Guicha La. Mr. Farmer told us that he was returning after an hour, and therefore we did not go.

'On May 8, at 6 A.M., Nima Tundrup, Sonam Tangay and myself accompanied Mr. Farmer. We went about half-way to Guicha La, when he said he had been on the top of Guicha La the previous evening and turned towards Kangchenjunga. We walked in that direction up to 11 A.M. When we reached the Lap-tse (cairn) heavy cloud intervened and we could not see the Kangchenjunga. We halted there for one hour, but it did not clear, so we returned to Chematang, and halted the night there. On May 9, at 6 A.M., we got ready to start, when he suddenly said that he must go towards Kangchenjunga, the same direction where he went the previous

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afternoon, and would return in half an hour. We waited there and he returned at 10 A.M.—that is, four hours after. He left Chematang at 10 A.M., and came to Jongri at 5.30 P.M.

'On May 10, on my suggestion, Mr. Farmer sent Nima Tundrup and Dam-du to purchase flour, vegetables, eggs, etc., at Yoksam and Pemingchi. Mr. Farmer, myself, Sonam Tangay and Sonam Chompe halted at Jongri. On May 11 Mr. Farmer told me to take five days' rations, and four of us left for Kang La, where he said he wanted to see the road. We halted that night at Tre Kyaplak cave, near Chu-rang Chu. On May 12 we went further towards Kang La and halted at Cho-kar-Pang. On May 13, at 6 A.M., Mr. Farmer, myself and Sonam Tangay went towards Kang La. We crossed Kang La and went about one-fourth mile. There was heavy snow on the Pass Q. I did not know that Kang La was the boundary line of Nepal. We returned that night at Tre Kyaplak.

'On May 14 we came to Jongri, where we halted on May 15. That day Mr. Farmer went alone towards Ke-pur mountains. I objected to his going alone, but he refused to take any one of us. That night Nima Tundrup and Dam-du returned from Pemingchi with one maund flour, potatoes, eggs, beans, onions, and a seer of butter. On May 16, morning, Mr. Farmer instructed me to take fourteen days' rations, and we started for Kang La at 10 A.M. We halted that night at Tre-Kyamla. On May 17, at Chu-Kar-pang. On May 18 we halted near Tse-ram on a grassy place. It was a bad and cloudy day. On May 20 we came to a village. I thought we were in Nepal, and asked Mr. Farmer whether he got a pass to enter Nepal. He replied "I know, I know." We then returned back about one fourth-mile and turned towards Kangchenjunga, and halted on a hill.

'On May 21 we went down into a valley and here we made our base camp. There were small or dwarf rhododendron trees available for firewood. On May 22 Mr. Farmer, myself, Sonam Tangay and Nima Tundrup went up for about one mile, and on account of snowfall we returned to base camp. On May 23 Mr. Farmer ordered me to take four days' rations, and about 10 A.M. we started, *i.e.* Mr. Farmer, myself, Nima Tundrup and Sonam Tangay. We halted at the glacier till 2 P.M., then we crossed the stream on the left and halted there for the night We were on the lowest portion of the glacier. Mr. Farmer called this No. 1 camp.

'On May 24 we were actually on the glacier. We saw an avalanche falling near our camp. We left at about 7 A.M., and came to our camp at 5 P.M. and halted there. Mr. Farmer called this as No. 2 camp. On May 25 he started at about 7 A.M., and reached at the foot of Kangchenjunga mountain at about 4.30 P.M. We made our camp on the glacier. It was a difficult place, and we made the camping place. We halted there. It was a cold night. In a few minutes our hot tea got frozen. We walked very slowly from

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camp No. 1 to this camp which Mr. Farmer called camp No. 3. That night he told us to prepare to leave the camp at 6 A.M. the next morning.

'On May 26 at 6 A.M. we all started. Mr. Farmer took coffee, some dry biscuits and ham. He kept no food of any kind in his pockets. He took a small camera, a pair of field-glasses, ice-axe and two films. He wore three shirts, two coats, three pairs of drawers, three pairs of socks. The nails of his boots having worn out, he used a pair of crampons. He took no rope. We walked up together on the mountains, but very slowly as we were getting difficulty in breathing. It was 9 A.M. then. I suggested to Mr. Farmer that as the sun was up and the snow melting, we may get trouble if we go further and suggested him to return to our camp. Mr. Farmer insisted that we must climb the mountain up to 12 noon. We went on. Then we came to a difficult place on snow and ice, sometime down and sometime up. It was like an ice corridor. Then came to a rock, and when climbing I slipped and fell down about 6 or 7 feet and injured my back. Mr. Farmer told us to wait here for him. He would return at 12 noon after taking some photographs. He gave his Cine camera to Sonam Tangay to let the spring go when he climbs up. As he started climbing up the mountain Sonam Tangay tried to operate it. We saw him going up to 5 P.M. As he walked he looked at us several times; and we all called him back, but he paid no heed. At 5 P.M. he sat down on the snow. Just then heavy cloud set in and intervened. We waited on the spot till 6 P.M. We thought that he would be returning, and we returned to camp No. 3 and cooked food and waited for him. He did not return. We used his torch light just to show him the camp. On May 27, at about 7 A.M., we got on the top of an ice hillock and we saw all the way that Mr. Farmer went up. We saw Mr. Farmer climbing up on the steep snow. This time he was a long way up. It was a small figure. He was climbing up. The peak of Kang-chenjunga was on his left-hand side.[12] He got on the top of a mountain, when the sun struck the ridge. He crossed that mountain and we never saw him again. Heavy cloud intervened. There were other mountains behind the ridge that he crossed. We waited for the Sahib at No. 3 camp. He did not return. We had no food—all exhausted. There were some dry biscuits of the Sahib, which we eat. About 300 ft. from our camp we found an old camp for two tents. [Probably the camp of Raeburn and Crawford, who are known to have gone up to Yalung in September 1920.] We thought some Sahibs came here before. There were two empty tins of kerosine oil and also a broken clay pot. There were two heaps of stones (cairns) which we thought were graves.

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[12] The description given shows that he went up towards the Talung Saddle (22,130 ft.). The party had been working on the Yalung Glacier.—*Editor, A.A.J.*

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'On May 29 [? 28] we waited for the Sahib. As he did not return we left the camp at about 9 A.M., and came to No. 2 camp, where we left some food on the up journey. We reached there at about 5 P.M. For want of food we nearly lost our lives. I thought as the Sahib did not return for three days, he must have met his death.

'On May 29 we came to the base camp, where we met Sonam Chompe and Dam-du, and halted there. That night our food was exhausted, as we took food for only fourteen days.

'On May 30 Sonam Chompe went to a "Gote" [cowherd] and there exchanged his "Chupa" [Tibetan coat] for one pathi "Indian corn." With this food we came to the hill near Tse-ram, and halted there.

'On May 31 we camped near Kang La. June 1 we came to Chu-Kar-pang, and I sent Sonam Tangay to Jongri and told him to proceed at once to Mr. Wood-Johnson, and hand over the Cine camera, so that he may be able to develop the films and show the places visited by us and give information about the Sahib.

'When we reached camp No. 3, Mr. Farmer had for his food three bundles of pea soup and half a paper box of biscuits, about two spoonfuls of sugar. We took them as we had no food to eat.'

W. S. LADD.

[Lobsang, who gave the above statement, has been mentioned in the current despatches from the International Kangchenjunga expedition.—*Editor*, 'A.A.J.']

The Accident on Mt. Robson.

'The press reports the death of Mr. Newman D. Waffl[13] during the first week of August. We have no particulars as yet, but competent people were in the vicinity, and there is no doubt about the fact. He was climbing *alone* on the N. face, and the theory is that a section of the huge corniche from above broke off and started an avalanche that overwhelmed him. He was a very good climber, and there seems no excuse for this kind of thing in his case.'—*Communicated.*

REVIEWS.

Tableau littéraire du Massif du Mont Blanc. By Ch. Vallot and C. E. Engel. Librairie Dardel, Chambéry. 25 francs.

THE aim of this book—which is to rank as the first in order of the eleven volumes of M. Vallot's 'Description du . . . Mont Blanc'—is to give 'a complete inventory and critical study of the pages

[13] The name is given as Waffls in some American publications.

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devoted to the most enchanting of mountain groups by French, Genevese and English writers.' M. Vallot is responsible for the larger part (some 250 pp.), treating of those who wrote in French, while Mlle. Engel contributes a separate section (77 pp.) dealing with English writers. It is a pleasure to commend their work as one of much interest and value to all lovers of mountain literature. Where it goes over well-trodden ground it always throws fresh light upon it, and it fills many gaps left by previous explorers.

M. Vallot has, of course, exceptional qualifications for his task. To a profound knowledge of the whole terrain, he adds the advantage of access to an unusual wealth of sources, not only in his own collections, but also in local archives and the great libraries of Paris and Versailles, with the expert aid, when needed, of their respective custodians. Not less important is the freedom from preconceived ideas with which he handles his theme, and his constant effort to realize the intellectual attitude and the mental and moral background of the writers considered. He shows much skill in defining the exact bearing and 'true inwardness' of the many passages quoted, and a refreshing frankness in pointing out the mistakes of other critics, from Coolidge and Durier[1] downwards.

In his opening chapter, 'le Mont-Blanc à l'horizon,' M. Vallot shows us the crowds of pilgrims flocking in mediaeval days to Rome, and as they crossed the Côte-d'Or catching sight of a snowy summit far away, which was called Mont St. Bernard, and marked 'the passage from Gaul into Italy.' This is, perhaps, the first recorded reference to Mont Blanc. He goes on to quote the well-known passage from Conrad Gesner ('I have made up my mind to climb some mountains, or at least one, every year . . .') in order to point out that the Zürich Professor must have come sometime into the neighbourhood of Mont Blanc, since he compares the lake on Pilatus to another he had seen 'in the country of the Bodiontii,' which M. Vallot (convicting Coolidge of a 'really surprising confusion') identifies as the Lac Bénit above Cluses.

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[1] The recent revival, in no little intensity, of the long-standing controversies about the first ascent of Mont Blanc, in the course of which Durier's fervent support of Balmat's claims seems to have stereotyped the opinion of French mountaineers in the latter's favour, lends point to the following outspoken verdicts pronounced on Durier's methods by such a distinguished French authority on mountaineering as M. Vallot. 'Durier based his [literary] estimates on an inadequate documentary apparatus, and allowed himself to be dominated by accepted opinions' (p. 7). 'Durier was carried away by his feelings, to which he too often subordinated his reasoning powers' (p. 17). The latter quotation refers to the belief entertained by Durier (and Coolidge) that in Count Aymon's charter of 1091 the 'rupes alba' mentioned as one of the boundaries of the Priory of Chamonix was Mont Blanc. M. Vallot shows that, as Freshfield suggested in 1906 (see *A.J.* 23, 78), it was really a landmark near the confluence of the Diosaz with the Arve. He points out that (in 1730) the commune of Chamonix regarded their territory as bounded on the south by a line joining Mont Maudit to the Dôme du Goûter, and deliberately abandoned 'la Sommité' to Courmayeur.

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It would be interesting to follow M. Vallot in his accounts of Fodéré (who in 1585 wrote of glaciers, crevasses, crampons, ropes, and medicinal drinks made of glacier-ice), and of St. François de Sales, Bishop of Annecy, and the letters in which he related his visitation of the remote parts of his diocese, including Sixt and Chamonix. We can only pause to quote one suggestive sentence. 'In Haut-Faucigny, four singularly different figures have preserved through the centuries an unfading aureole of fervent or jealous devotion—Béatrix de Faucigny, St. François de Sales, M. de Saussure, Jacques Balmat.'

Two widespread misconceptions are corrected by M. Vallot with insight and common sense. The omission by early travellers to mention great mountains where we should expect these to figure largely in their descriptions must not be supposed to prove that they did not see them as well as we do. 'It might as well be argued that the sea, which appeared in literature long after the mountain, had all that time remained unnoticed. . . . The truth is that the immensely detailed extension of mountain knowledge and nomenclature has endowed observers of a great chain with a "separating power" which formerly had neither any *raison d'être* nor even the possibility of expression.' A more serious error is the 'repulsion' against high mountains commonly supposed to have prevailed until Rousseau transformed it into something like worship. 'Durier rightly remarks that the word "affreux" so often used by early writers does not mean "hideous" but "exciting terror." So La Rochefoucauld speaks of "les montagnes *affreusement belles*." ' But 'Durier himself, by the very success of his *Mont Blanc*, became the chief propagator of the error' through his ill-grounded inferences from scattered phrases in seventeenth century authors. 'In an objective criticism of the reflections suggested to early writers by the vision and the crossing of mountain ranges, we must distinguish carefully between those which apply to the *site* and to the *obstacles* respectively. The latter have been so far smoothed away for us, that we tend to let ourselves be diverted by the lamentations of early writers—often well-enough grounded—from the plain indications of their real sensitiveness [to mountain scenery.'] As for Rousseau, M. Vallot prints a letter (of little interest in itself) which shows that he stayed at Cluses (for the whey-cure) as early as 1733, and he must surely have seen the glorious views of Mont Blanc obtainable within easy walking distance. But in all the mass of his writings there is no reference to high mountain scenery save one casual allusion to 'the Glaciers' and to the sunset glow on lofty peaks. How much he did (chiefly of course by the *Nouvelle Héloïse*) to rouse a love of the lower Alpine regions, and of nature generally, is explained in a later chapter, if not with Leslie Stephen's inimitable touch,[2] yet with characteristic care and precision.

[2] *Playground of Europe*, pp. 39–46. Compare Freshfield's vigorous argument in his *Life of de Saussure*, pp. 21–30.

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In his account of the 'First Caravans,' M. Vallot perhaps overdoes the denial of anything that could be called a 'discovery' of Chamonix by Windham. It is a little surprising that in describing the journey of the first French visitor to the valley (the Duc de la Rochefoucauld, in 1763) he should omit the significant sentences (quoted, *e.g.* by Mr. Gribble [3]) which prove that the Duke at least attributed to Windham the 'discovery of the glacières' and the inspiration of his own expedition. As the Duke, with his mother, was staying at Geneva for three months, and as they were intimate friends of Voltaire—to whose life at Ferney and appreciation of mountain scenery M. Vallot devotes a dozen pages—the young man may be presumed to have been familiar with the opinions prevailing in the city which was becoming—partly as a result of Windham's excursion—the 'portal' for visitors to Mont Blanc.

The chapters on 'the Naturalists' (*e.g.* Deluc and de Saussure) and 'the Amateurs' (especially Bourrit) are full and attractive. We may miss some of the personal touches that enliven the narratives of the Delucs and of Bourrit, but that, no doubt, is due to the theme of the book being literature rather than mountaineering. On the other hand we have some interesting pages on the two schools of inquirers who were striving to work out a 'theory of the globe'—the *a priori* (Buffon), and the observational and experimental (Deluc and de Saussure)—and on the instruments (barometer, hypsometer, hygrometer) improved or invented by the latter school. The sketches of de Saussure and Bourrit too are well rounded and sympathetic. They are followed by a chapter on 'the Tourist era,' which begins with an instructive analysis—unfortunately too long to quote—of the Alpine-literary position in the middle of the eighteenth century, and includes quotations from a 'mixed bag' of tourists, of whom Cambry and Mme. Roland are perhaps the most interesting. In one of his footnotes, M. Vallot explains the words *envers* and *endroit* (literally 'wrong side' and 'right side') as meaning 'facing north' and 'facing south' respectively, the 'right side' for vegetation being of course the sunny slope, and *vice versa*. The application to Montenvers and other mountain names is obvious.

Perhaps the most valuable portions of the book—especially to those who are not experts in French literature—are the chapters devoted to the poets (*e.g.* Chénier, Chênedollé), to the writers associated with Mme. de Staël at Coppet, and, above all, to the Romantics (Hugo, Lamartine, G. Sand, Michelet, Gautier). M. Vallot closes his survey with the year 1870. He notes the subsequent divorce in France of mountain writing from literature (in recent years 'the Mountain, if not absent from literature, has held but a minor rôle in comparison with the Sea and the Desert'), but hopes that among 'the specialists who feel in their hearts what they cannot express' some may arise to reveal the secret of their devotion, and thus inaugurate a new epoch in the literature of mountains.

[3] *The Early Mountaineers*, p. 123. See also *A.J.* 17, 288.

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English readers will naturally turn with special interest to Mlle. Engel's pages. They will not be disappointed. Into her seven chapters she has packed a well-balanced, acutely realized, and happily expressed account of the reactions to mountain scenery of the chief English writers on this theme. A novel point to most of us will be the importance attributed to Ramond's translation of Coxe's 'Sketches.' 'Ramond [4] is the first romantic of the mountains—at least in France, for in England there had been Gray.' [5] Mlle. Engel shows a remarkable insight into the mind and thought even of Wordsworth, Shelley, and Ruskin—writers peculiarly difficult for the foreign student—and she illustrates her survey by translations of typical extracts which seem as nearly perfect as the genius of the French language allows, and which not seldom illumine the original for the English reader. Space must be found for an example. Speaking of 'the almost giddy heights to which Shelley's ode to Mont Blanc soars—a piece of work which no one either in France or England has even equalled,' she supports her verdict by quotations.

'*La solitude a un langage mystérieux qui enseigne un doute si terrible ou une foi si douce, si solennelle, si sereine, que l'homme, grâce á elle, peut être réconcilié avec la Nature. Tu as une voix, ô grande Montagne, qui anéantit bien des injustices, et des douleurs; elle n'est pas comprise de tous, mais les sages, les grands, les justes l'interprètent, la font sentir ou la sentent profondément.*' Note here the interpretation, probably correct, of the *crux* in the words 'but for such faith.' As for 'the voice . . . not understood by all,' we cannot forget Leslie Stephen's gentle raillery when he adds 'and, it is to be feared, not very clearly by the poet himself.'

'*La secrète force des choses qui gouverne l'esprit et qui, pour le dôme infini du ciel, est une loi, résitle en toi! Et que serais-tu, que seraient la terre, les étoiles et la mer si, pour les rêves de l'esprit humain, le silence et la solitude n'étaient que le vide?* C'est la grande profession de foi panthéiste de l'œuvre entière de Shelley qui inspire ces vers.' That is so, but to many of us such magic lines as 'Mont Blanc yet gleams on high' give a keener thrill.

In her last chapter, Mlle. Engel sums up briefly but justly the characteristic qualities of Leslie Stephen, Tyndall, Whymper, and others, gives a striking translation of Mr. G. W. Young's 'The Treasure of Heights,' and concludes with Sir Francis Younghusband's call ('almost a manifesto') for painters and poets to interpret the mountains—even Mount Everest—to which the explorers, geographers and climbers have opened the way.

E. H. S.

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[4] There is a lively sketch of this engaging figure in Mr. Gribble's *Early Mountaineers*, pp. 218–232.

[5] Mlle. Engel mentions Gray's description of the Grande Chartreuse, but misses his 'the mountains are ecstatic,' curiously paralleled half a century later by Shelley's description of the approach to Chamonix: 'I never knew, I never imagined, what mountains were before. The immensity of these aerial summits excited . . . a sentiment of ecstatic wonder.'

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Guide Vallot, IV. Groupes du Mont Blanc et de la Tour Ronde. By Jacques Lagarde. Pp. 269, with 34 sketches and 3 maps. Fischbacher, Paris. 1930.

M. LAGARDE is a great authority on the Mont Blanc Group and especially on Mont Blanc itself. This alone makes the work valuable. As is well known, the *Vallot* guides are not supposed to be actually carried in the pocket on a tour: they are works of reference and, as such, worthy of profound but leisured study. 'Mont Blanc' shows the most meticulous accuracy and preparation; M. Lagarde when describing a pass gives us the ascent by *both* slopes of the said col. In this respect we believe the *Vallot* guides are quite unique. We venture to offer one slight criticism; we should like to see the topographical situation of the passes described as follows: 'Col Emile Rey, *between Pointe Luigi Amedeo and Mont Brouillard; from the Gamba to the Q. Sella Club hut*'—as in the 'Conway and Coolidge' or 'Kurz' series. With the extraordinary abundance of names, such a description appears to us almost a necessity—at any rate until *all* the sheets of the new *Vallot*, 1:20,000, map are issued. The outline-sketches are good.

The work is wonderfully up to date; expeditions accomplished late in 1929 are described and even illustrated by marked routes. The nomenclature—every point and gap is measured and named—is mostly deplorable, but for this neither MM. Lagarde nor Vallot can be blamed, although they might have exercised authors' privileges and suppressed nine-tenths of the personal appellations. There is, however, no *Chauvinisme*: French, Swiss, German, Austrian, Italian and British names appear in all directions. Some of these belong to distinguished mountaineers; others do not. We have not come across any nicknames such as have been given to points in other parts of the Mont Blanc Group. Is it too much to hope that *such*, at any rate, will not be perpetuated in the forthcoming guides?

In conclusion, we must express to M. Lagarde the gratitude of all mountaineers, as well as our warm congratulations on a remarkable piece of work.

Climbs on Mont Blanc. By J. and T. de Lépiney, translated by Sydney Spencer. Pp. xii + 179, illustrated. Edward Arnold & Co., London. 1930. Price 10*s.* 6*d.*

THIS is the English translation of the MM. de Lépiney book, *Sur les crêtes du Mont Blanc*, reviewed in 'A.J.' **41**, 438–40. As stated in that notice, this highly interesting and well-written book describes some of the most difficult and dangerous climbs accomplished in the Mont Blanc Group. The text has lost but little in its English form: Mr. Spencer has done his work well and at the same time has kept as near the original French version as is possible. We can recommend the translation highly to all those unable to appreciate it as thoroughly as they would wish in its French and earlier edition.

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The illustrations, the same as in the Chambéry production, seem to us even clearer in texture, and the book is very well got up in every way. It is certain to command a large and deserved sale.

E. L. S.

Yama Nikki. By Saburō Matsukata. 6½ × 4½: pp. 480. Tokyo, 1930. Price 2*s.* 3*d.*

THIS Alpine pocket-book, or 'mountain diary' as its name literally signifies, is the work of a well-known young member of our Club, and bears eloquent testimony to the enthusiasm and thoroughness with which he has devoted himself not only to the practical pursuit of mountaineering but also to the study of mountaineering literature in various languages. Its exceedingly clearly printed 480 pages include topics of every kind likely to be of interest and of use to Japanese climbers both at home and abroad.

The fact that its first edition of 6000 copies was at once sold out is a tribute both to its own excellence and to the steadily increasing hold that mountaineering has upon the educated youth of the Japan of to-day.

Among its chief contents are hints on climbing, both general and for the winter season, which is now growing in popularity and imposes entirely new conditions on mountaineering in Japan; on outfit, first aid, and distress signals: here we have the latest information as to the altitudes of the principal peaks, mountain huts, and mountain guides, with suggested routes of varying degrees of difficulty.

There is an excellent glossary of mountaineering terms—a few of these need correction—to which in a later edition it is hoped to add the corresponding terms in various Japanese dialects, a very interesting feature of an unusual kind.

A full bibliography of books, dealing not only with Alpine 'travel and adventure' generally, but also with the exploration of the Japanese high mountain ranges, is followed by a list of the principal manuals treating of the practice of mountain craft, beginning with the well-known volume by our own revered President and including those by other distinguished members of the Club. A pleasing feature of this part of the work is its generous appreciation of the indebtedness of the young Japanese mountaineer to-day for the lessons to be learned both from the precepts and the example of those, especially of our own Club, who have been first in the field.

Much useful information in a necessarily condensed form is given on such topics as meteorology, botany, geology, etc., while quotations from classical Japanese poems and from other (non-Japanese) sources are provided with a view not only to inculcate the Japanese traditional spirit of climbing but also by way of deprecating certain new developments of 'stunt' ascents which the editor rightly holds to be inimical to the best interests of the pursuit of mountaineering in its highest form.

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We feel that Mr. Matsukata deserves our warmest congratulations on a most admirable achievement, and we will only add that its scope and completeness would be the more readily apprehended in another edition, by his non-Japanese fellow-mountaineers, if he could give the table of contents in the English tongue as well as that with which it is already provided in Japanese.

The Alpine Club Library.

[Owing to the serious illness of Mr. Mackintosh, from which he is now happily recovering, publication of the *Alpine Club Library* is postponed till the next number.]

PROCEEDINGS OF THE ALPINE CLUB.

A General Meeting of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, May 6, 1930, at 8.30 p.m., Dr. Claude Wilson, *President*, in the Chair.

Mr. Daniel Underhill was balloted for and elected a member of the Club.

The Winter Dinner Regulations were submitted to the Meeting and approved.

The President referred to the deaths of the Rev. Canon James E. Dawson, who was elected n 1908, and Monsieur le Baron F. Gabet, President of the French Alpine Club, who was elected an Honorary Member of the Alpine Club in 1920.

The President also made a statement with regard to the Appeal Fund and the Club Premises.

Mr. A. W. Andrews then read a Paper on 'The Drakensberg,' which was illustrated by lantern slides. Col. E. L. Strutt, Mr. Reginald Graham, Dr. Tom G. Longstaff and others took part in the discussion which followed. A cordial vote of thanks to Mr. Andrews closed the proceedings.

CORRIGENDA TO NO. 240.

Illustration facing p. 64, *read* title as 'Chafa Pupluks.'

P. 75, last line, *read* 'the difficulties were so.'

P. 92, line 25, *read* 'Kalbermatten.'

P. 116, line 11, *read* 'Schulze route.'

P. 123, line 23, *for* 'Venetian guide' *read* 'Gross Venediger guide, Johann Rainer of Krimml.'

P. 140, line 34, *read* 'De la Bèche.'

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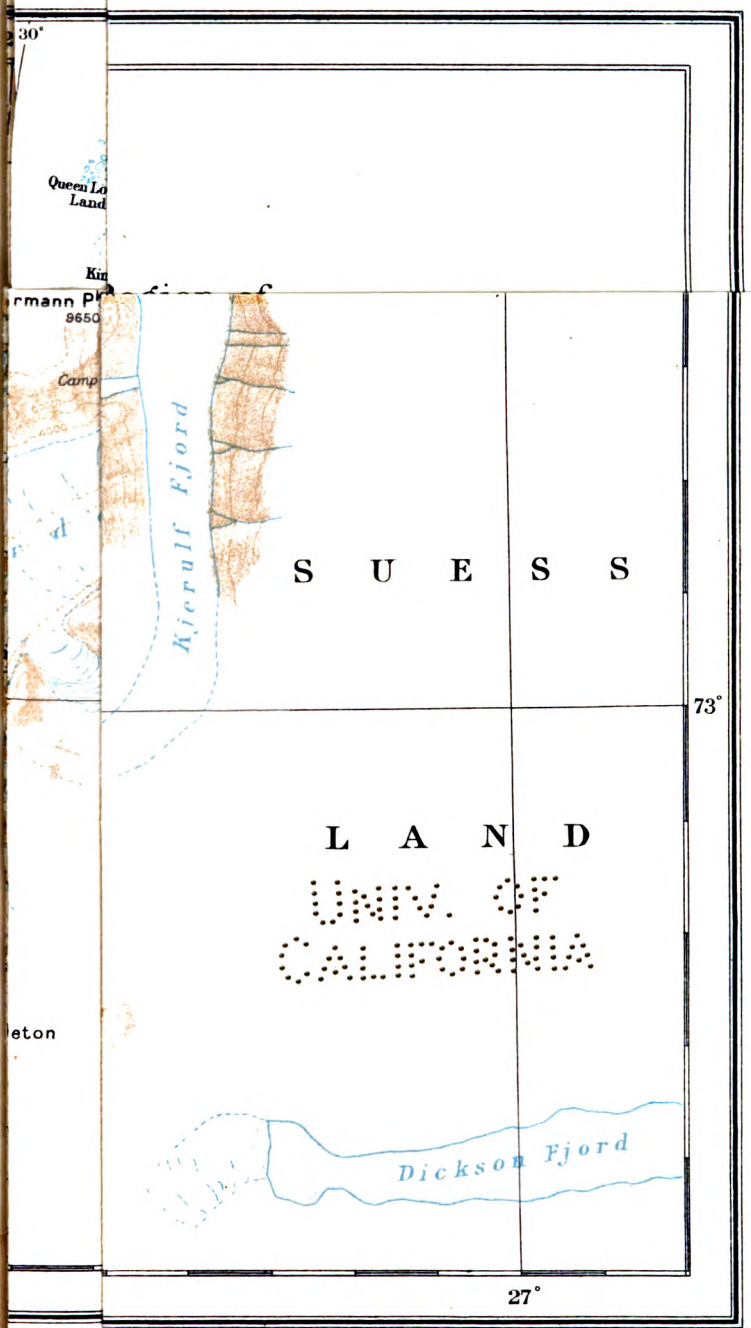

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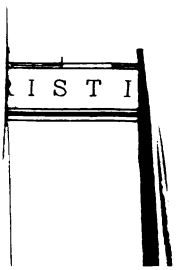

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ADDENDA AND CORRIGENDA TO NO. 241.

P. 223, line 36, *for* ' North-westwards ' *read* ' North-eastwards.'

P. 234, line 5, *delete* sentence in brackets.

P. 235, line 36, *delete* ' and Gebel Abu Qadis.'

P. 237, line 14, *for* ' bore away to the right ' *read* ' bore away to the left.'

P. 270, footnote 4, *for* ' p. 257 ' *read* ' p. 267.'

P. 326, line 25, *for* ' ALPHUBEL by the W. face ' *read* ' N.W. face.'

P. 327, Title of illustration should *read* ' Alphubel, N.W. Face.'

Illustration facing p. 327, *for* ' Rotbrettgrat from " Hornby and Philpott " Route ' *read* ' Rottalgrat from Silberlücke.' The Rotbrettgrat is shown in the illustrations in *A.J.* **41,** facing p. 419.

Pp. 327–328 : The *first* descent of the *Rotbrettgrat* was made by M. M. A. Mottet, Franz Müller and Otto Tschanz on August 14, 1910 (*Jahresbericht* V, 1909–1910, des A.A.C.B., p. 16). This is the reversal of Sir H. Seymour King's route of 1887 (*A.J.* **14,** 31-37, and note, p. 38). The 1910 party left the summit of the Jungfrau at 6.30 A.M. on August 14. There were 12 to 16 inches of fresh snow and bad conditions till far down ; above the Silberlücke they *abseiled* once. Lücke, 8.30 to 9. Up to the summit of the Silberhorn good going. Top of Silberhorn, 11 A.M. They now turned downwards towards the *Rotbrettgrat*. First, there was some hard and very steep névé, then came even steeper ice, but allowing of good step-cutting, as it could be done in an oblique direction, this being a broad flank. Afterwards the route narrows to an arête, first ice, but not steep, followed by friable rock. No gendarmes. This rock arête is ½ to 1½ m. broad, and consists of small cubes. However, it is possible to descend upright. At 3 P.M. the party reached the *Rotbrettgrat's* overhang, forming a practically vertical step. Ambros Supersaxo, the leader of Sir H. Seymour King's 1887 party (*A.J.* **14,** 31–38), circumvented it by a traverse to the N. The arête above the overhang is about 5 m. wide and nearly level. Two of M. Mottet's party were let down over the overhanging step (8½ m. high), and the last man, with some difficulty, then found a crack somewhat above the edge into which a piton could be driven. It held fast, at least in the direction required, allowing the last man to let himself down with *Kletterschluss*. They now left the top of the *Rotbrettgrat* and had to find a way down to the *Strählplatten* (*vide* full-page illustration, *A.J.* **31,** facing p. 217. The line marked ' 2 ' is actually that of their descent). First they turned to their left and climbed down over difficult slabs. *Kletterschuhe* were found to be a great advantage, as on this part of the descent there was but little snow. Endless zigzags then brought them down to the lower ledges, there being as a rule only one place where it was possible to descend and much time being lost in searching. As a final difficulty, a waterfall had to be negotiated (mentioned by Fellenberg, S.A.C. *Jahrbuch* I, p. 324), and at 8 P.M. they at last

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reached the *Strählplatten* at the foot of the Rotbrett wall (*S. map*). Here they passed the night in their oiled-silk sleeping-bags.

The *second* party to descend the *Rotbrettgrat* was that of Herr Ernst U. Gertsch, with Hans Schlunegger (son of H. Schlunegger, Herr Wäber's guide on the first ascent of the Jungfrau by the N.E. arête, 1911). This party left the Jungfraujoch on September 4, 1930, at 4.45 A.M. The N.E. arête was buried in deep snow and the first step especially proved very difficult and dangerous. Point 3788 m. (*S. map*) of this arête was reached at 7.45 A.M., where a halt of ½ hr. was made. From here on to the great tower about half-way up the N. arête the conditions were excellent and climbing found very enjoyable. The great tower was gained at 9.20 A.M., where another rest of 15 mins. was made. The last part of the arête gave much work and progress was slow. Shortly after 12 the Wengern-Jungfrau, 4060 m., was reached, and the top at 12.45 P.M. After a rest of 1 hr. they left the top and gained over the Hochfirn the so-called *Goldenhorn*, a little snowy peak S.W. of the Silberhorn, in 50 mins., on which they spent 15 mins. They climbed down over the *Rotbrettgrat* and reached the top of its overhanging step (*Fellenbergflühlein*) at 4.15 P.M. After some trouble they found that the *Abseil* piton of Mottet's party had disappeared (it was still there in 1926 and 1927). The leader was let down while the last man descended over the S. flank of this nearly vertical step. It took the party 45 mins. to overcome this difficult step. From the foot of this overhang Gertsch's party continued to climb down over the actual *Rotbrettgrat* (M. Mottet's party had left the crest and turned to the S.). Gertsch knew the route, as he had ascended it in 1926 (*A.J.* **38**, 317–21). The rocks are very rotten, and, in spite of great care being taken, on more than one place great avalanches of stones were started by the two climbers. At 6 P.M. they got to that part of the arête where the couloir from the N.E. joins up with the crest climbed in 1926 (*A.J.* **38**, 315–17). There they spent a comfortable night in their sleeping-bag. Next day (September 5), when getting up they found that this couloir was already raked by stonefall. They searched for another way to descend, but finding none turned back to the couloir again. At 8 A.M. they began the descent down this couloir, in which, at this time, stones seemed less frequent. Still, the descent was most dangerous. In order to get quicker down the couloir they roped down thrice. About 9 A.M. they were able to quit the couloir and descend, not without difficulty, but in comparative safety, the iced rocks leading down to the *Rotbrettlücke*, which was reached at 12 o'clock. Thus they completed the first combination of the N.E. arête of the Jungfrau with the West or 'Rotbrett' buttress. (Letter from Herr Ernst M. Gertsch to Dr. H. Lauper.) H. L.

[In general, *see* 'The Rottal Face of the Jungfrau,' *A.J.* **31**, 210–17, and **38**, 315–21.]

P. 342, para. 7, line 3, *for* 'Marcel' *read* 'Anatole.'

P. 343, NANGA PARBAT. The contemplated expedition has been abandoned for 1931.

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THE ALPINE JOURNAL:

A RECORD OF MOUNTAIN ADVENTURE AND SCIENTIFIC OBSERVATION.

BY MEMBERS OF THE ALPINE CLUB.

EDITED BY E. L. STRUTT.

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